

# Paradox and Policy in Adolescent Health

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*AUSTRALIAN PRIMARY HEALTH CARE  
RESEARCH INSTITUTE Aug 2009*

# Four ideas

Paradox in adolescent health

Puberty

Adolescent health matters

Data driven responses

A paradox in adolescent health?

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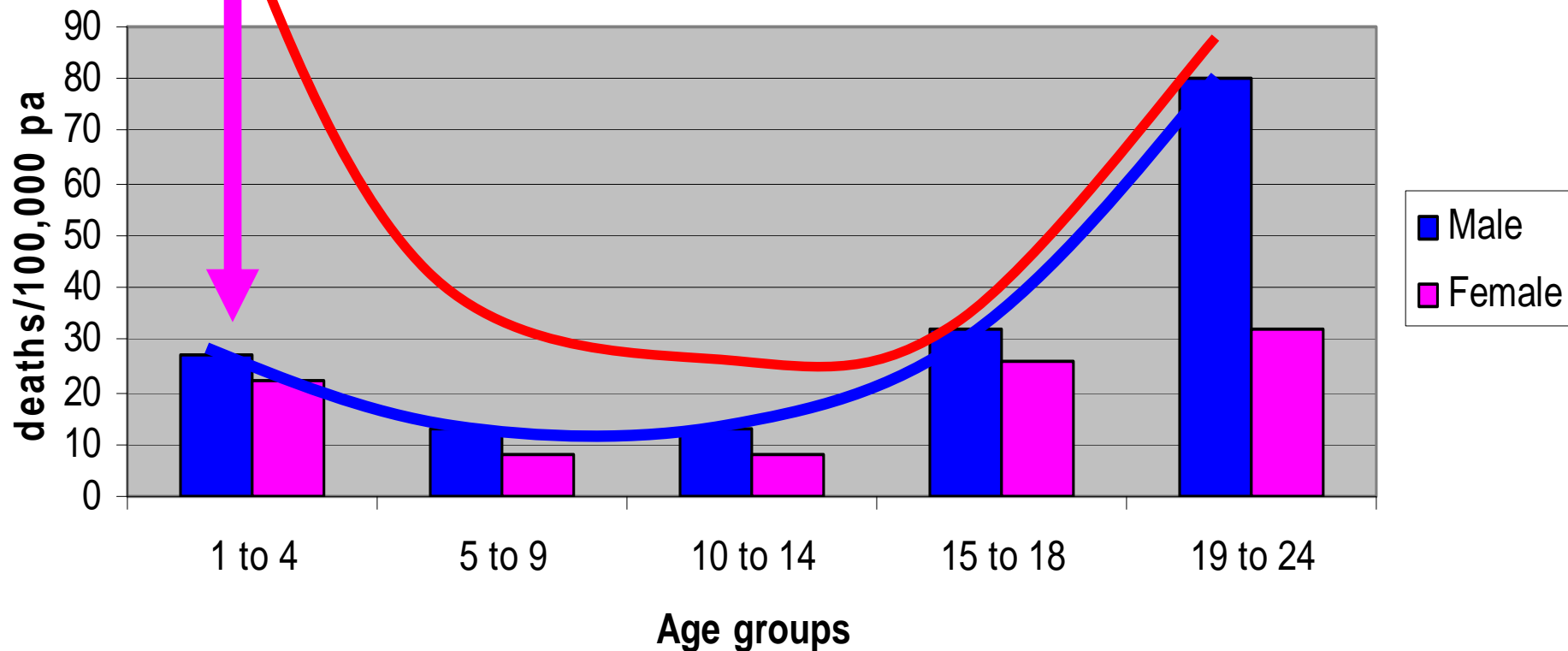
*Stronger, faster, fitter, smarter*

*but*

*morbidity and mortality worsen?*

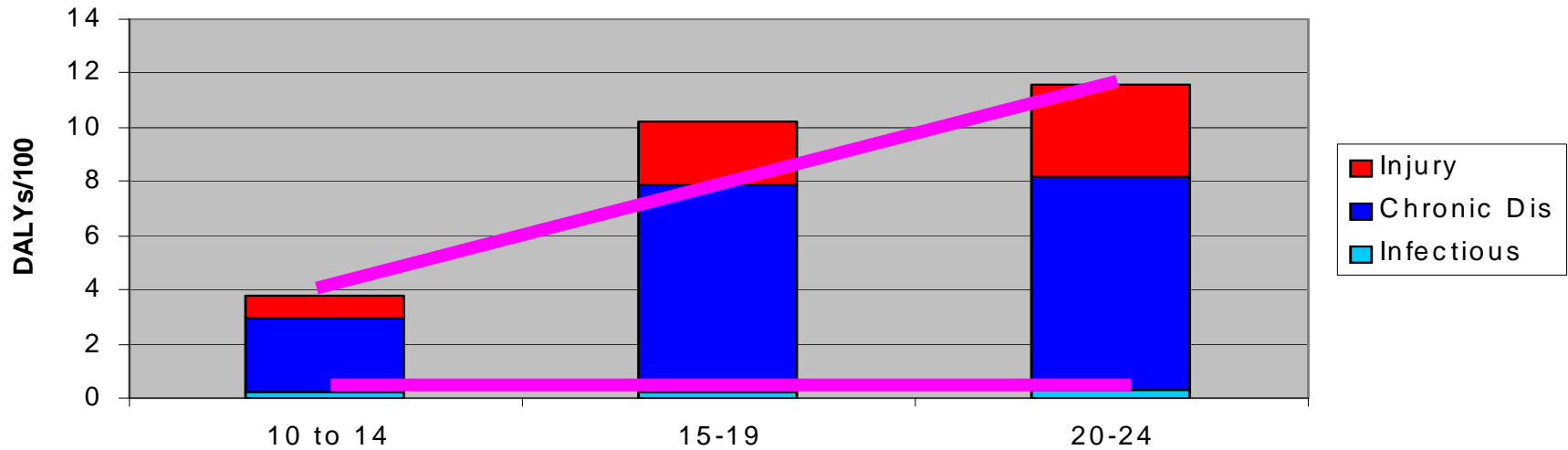
# Current Policy Emphasis

**Australian Child and Adolescent Mortality**

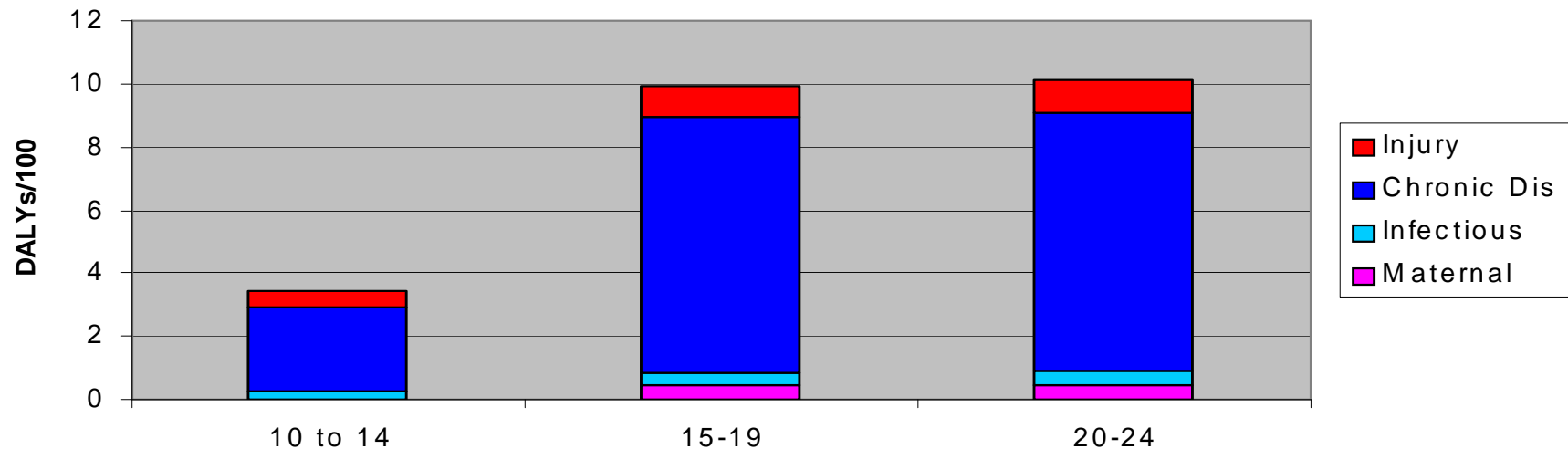


# Chronic Disease and Injury Dominate Adolescent Morbidity

## Male DALYs in High Income



## Female DALYs High Income



# The paradox.....

*Health problems increase post-puberty*

- *Importance is greatest in high income countries*
- *Social context matters*

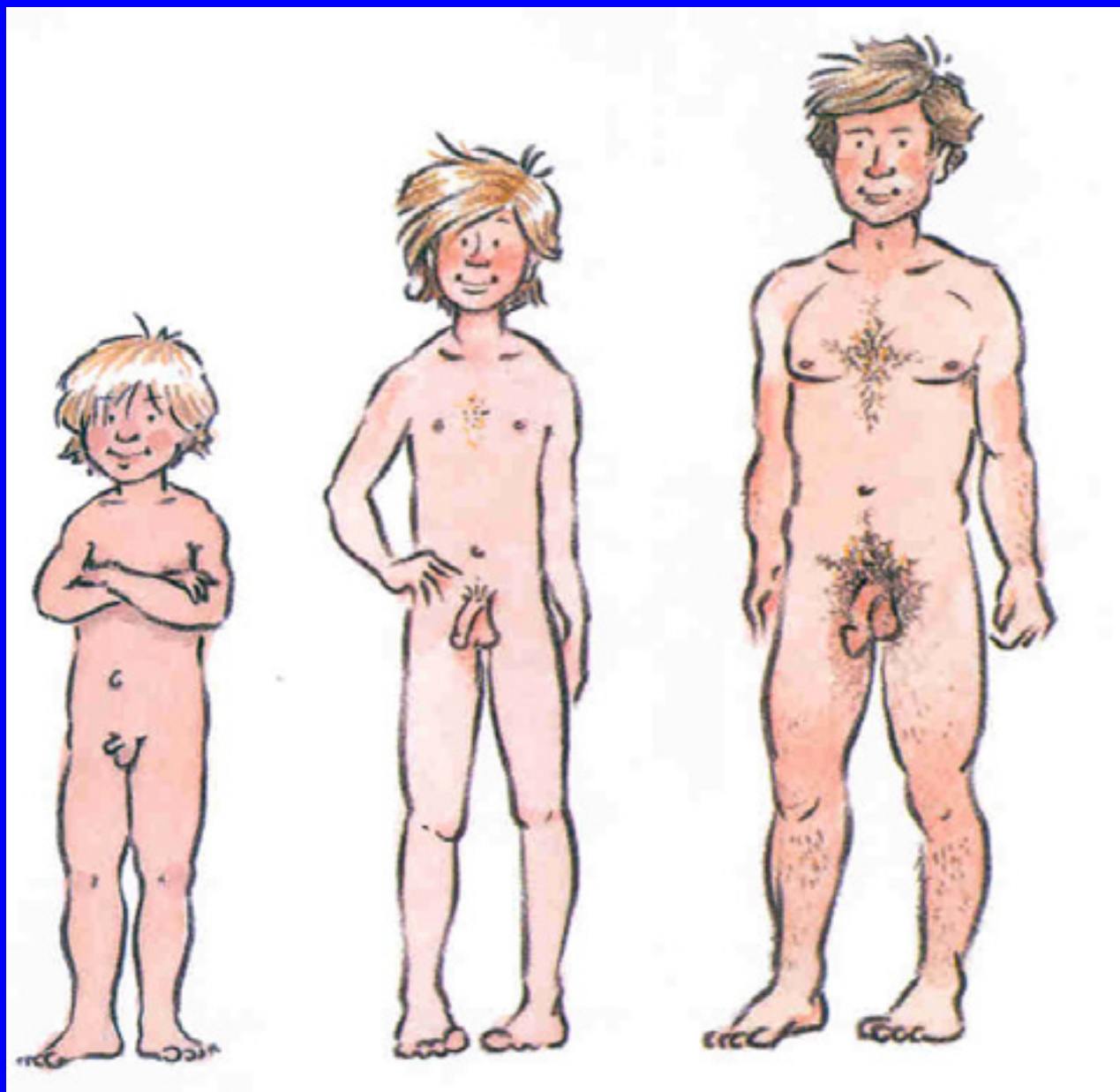
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# Pubertal Cascade

8 9 10 11 12 13 14 15 16 17 18 years



adrenarche



?

HPA axis

# Pubertal Cascade

8 9 10 11 12 13 14 15 16 17 18 years →

adrenarche

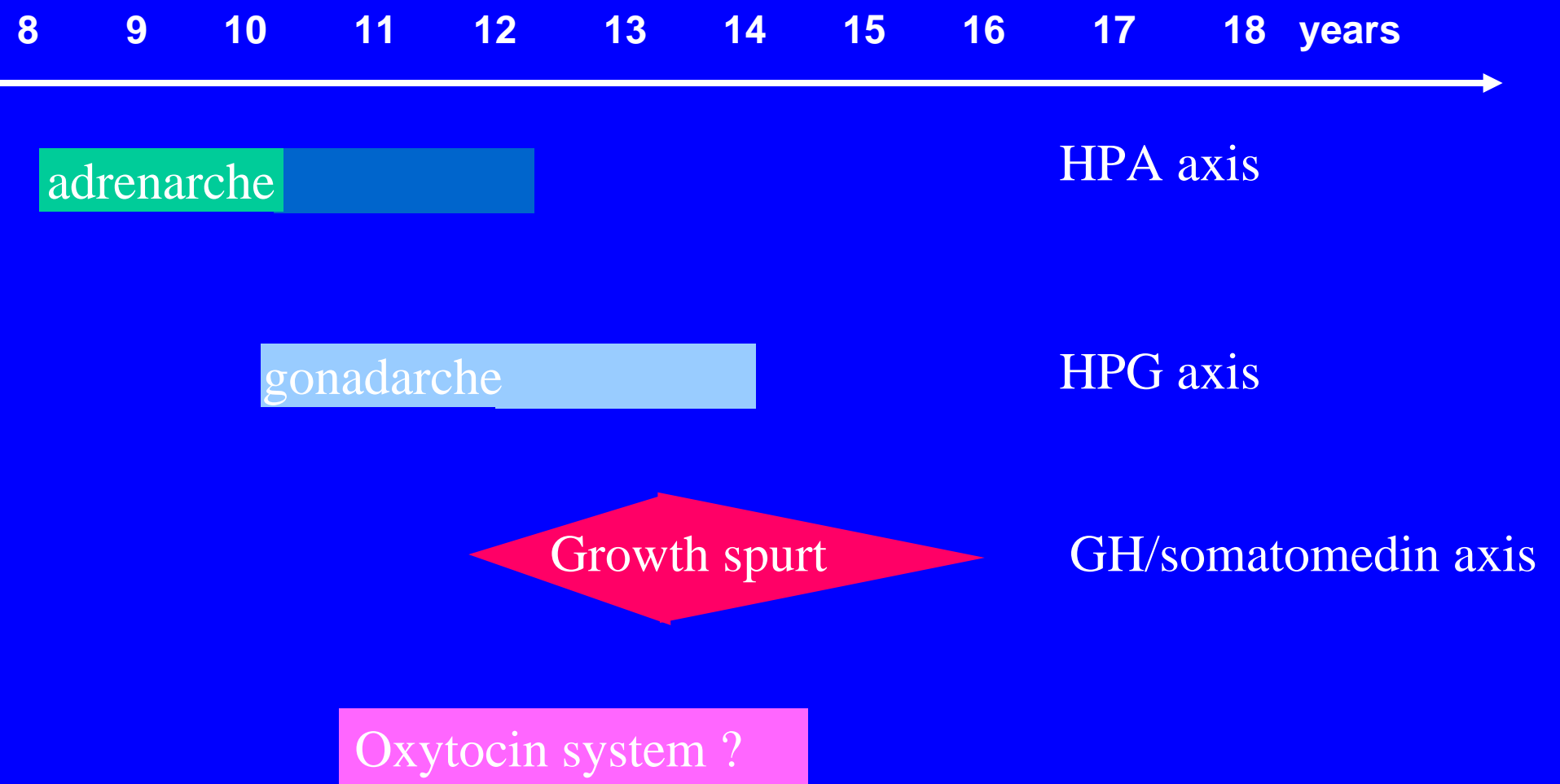
?

HPA axis

gonadarche

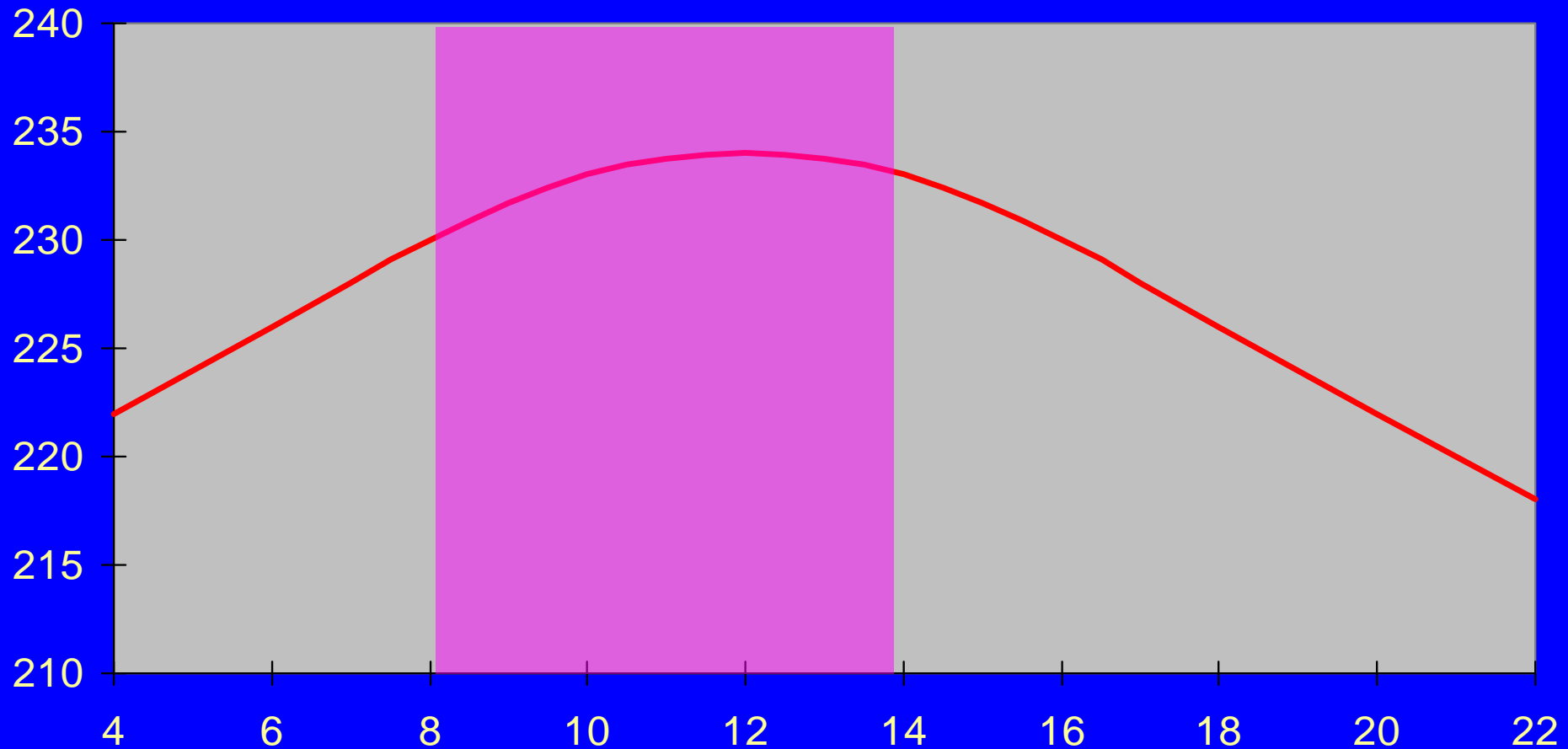
HPG axis

# Pubertal Cascade

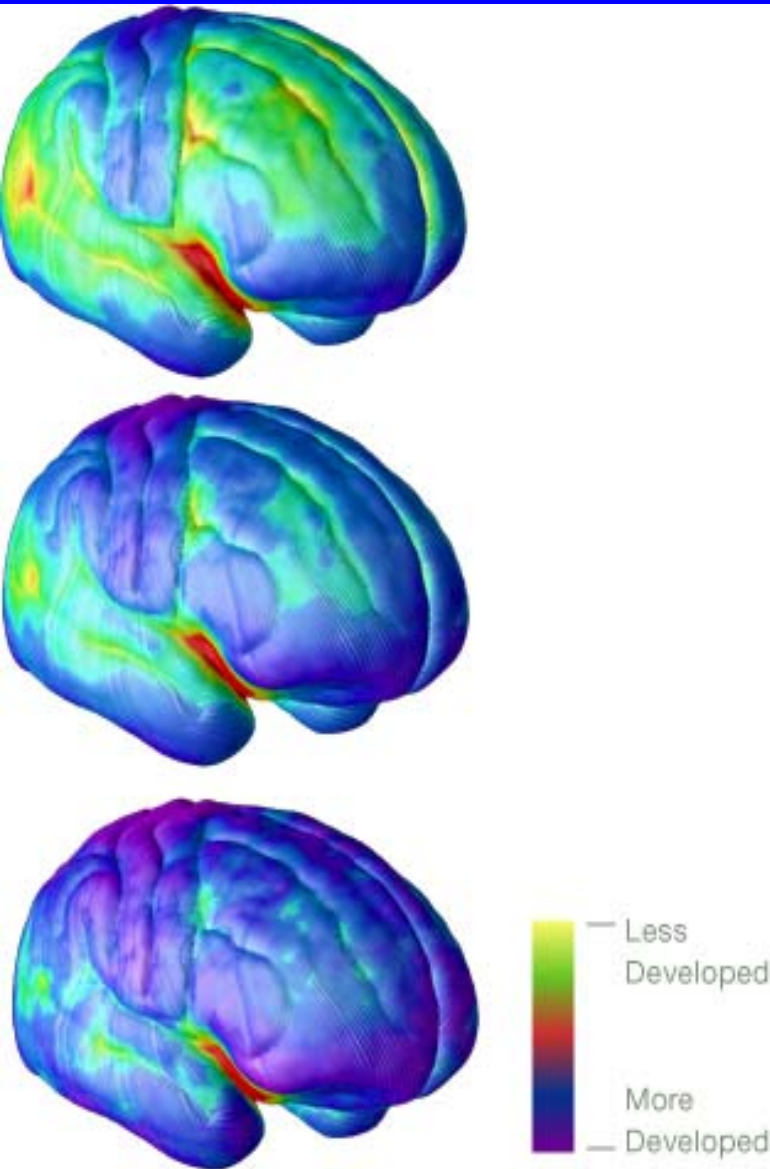


But that's not all that  
is happening.....

# Frontal grey matter volume



# Adolescent brain development



## Prefrontal cortex maturation

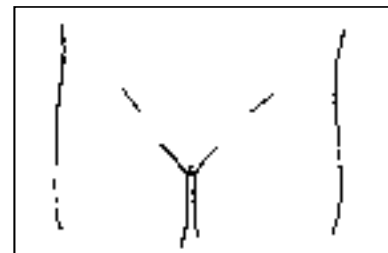
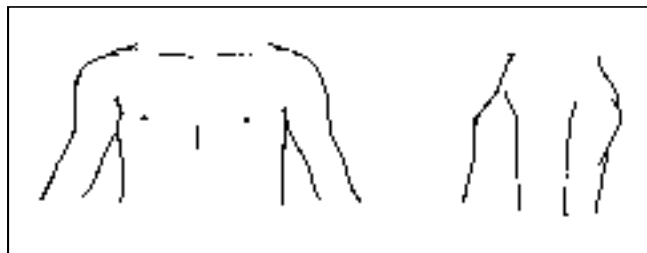
- extends into the third decade
  - impulse control
  - planning
  - emotional regulation

# ‘Adult’ problems emerge

- Depression - anxiety syndromes
- Deliberate self-harm
- Substance abuse
- Eating & body image disorders
- Psychotic symptoms
- Functional somatic disorders & Pain syndromes eg migraine
- Range of physical health problems

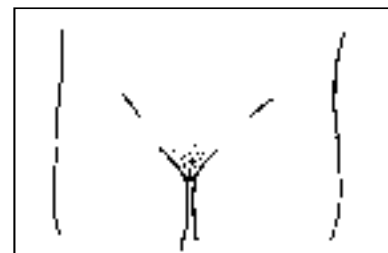


I



Early

II



III



Mid

IV



Late

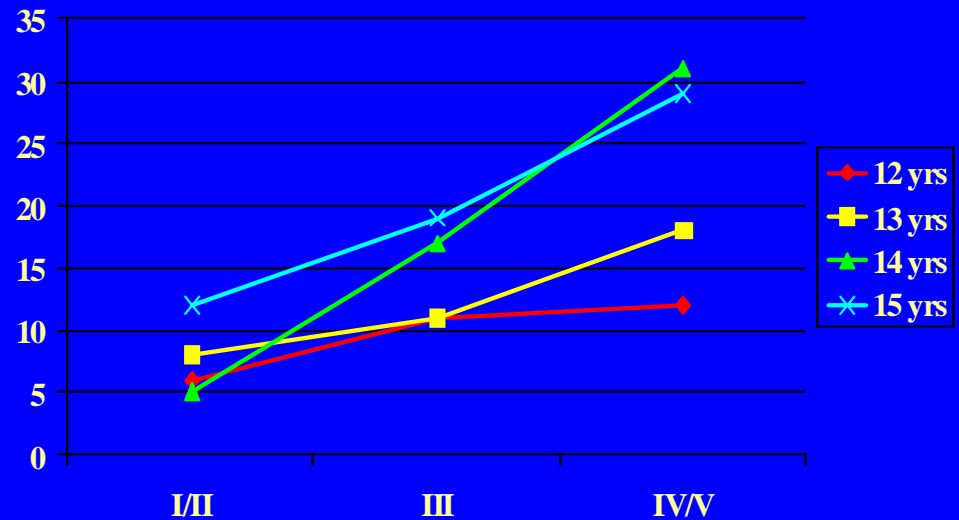
V



# Mental disorders

- **Depression** - a
- **Deliberate self**
- **Substance**
- Eating disorders
- Dysmorphopho
- Psychotic symptoms
- Functional somatic disorders
- Pain syndromes eg migraine

Substance abuse & pubertal stage (ages 12-15 years)



# Mental disorders commoner from puberty

- **Depression - anxiety syndromes**

- **Deliberate self-harm**

- **Substance abuse**

- Eating disorders

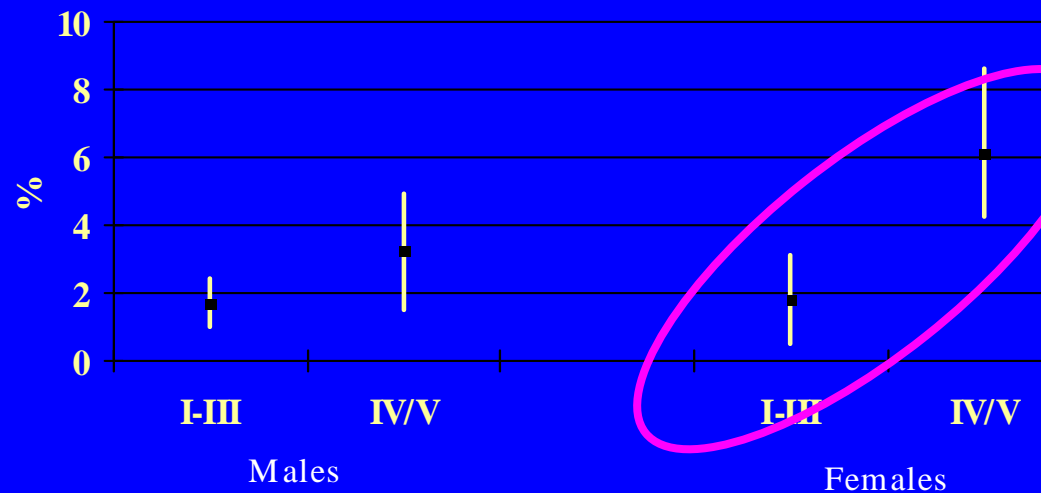
- Dysmorphophobia

- Psychotic symptoms

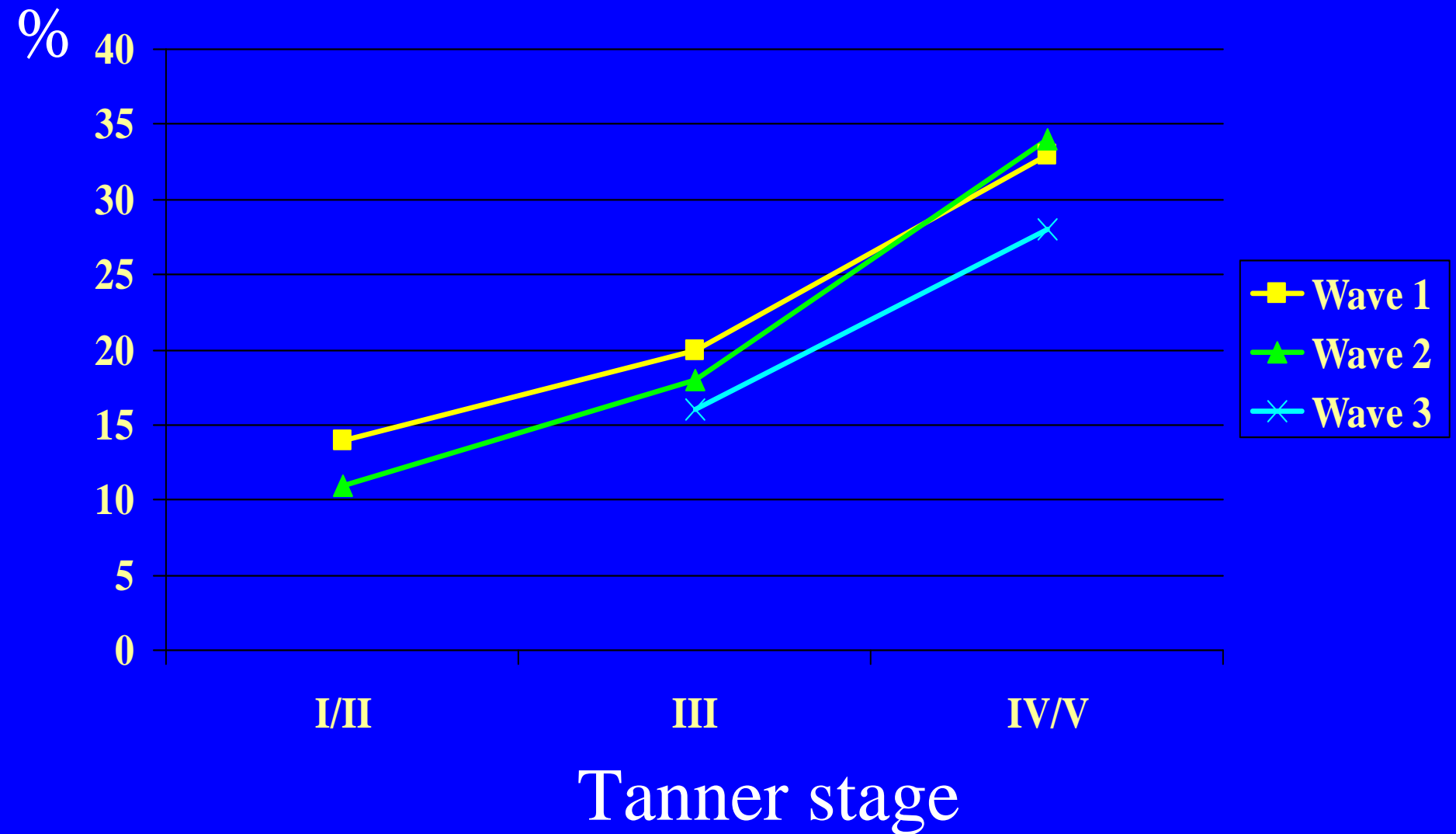
- Functional somatisation

- Pain syndrome

Deliberate self harm by early and late pubertal stage



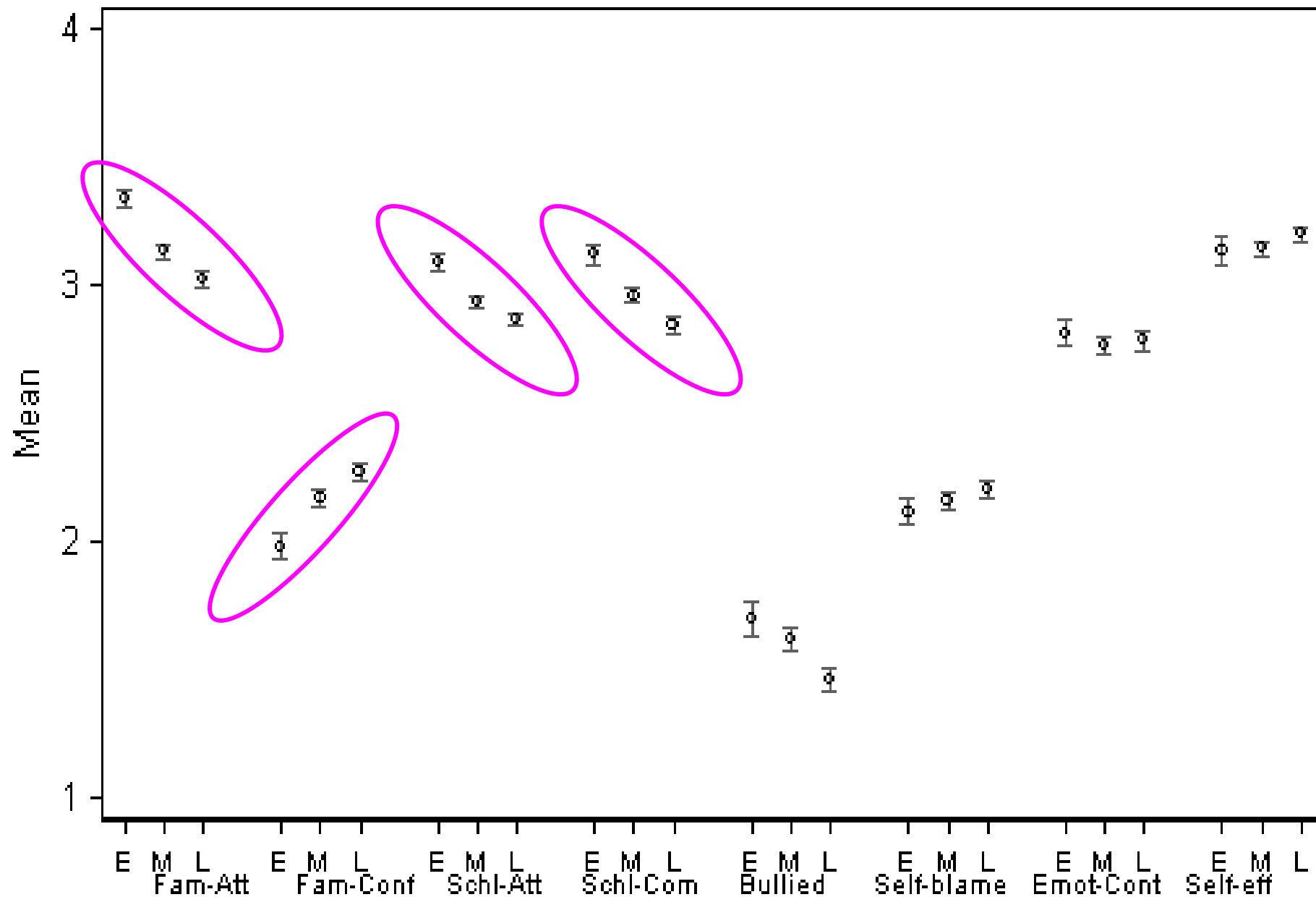
# Depressive symptoms & pubertal stage in girls



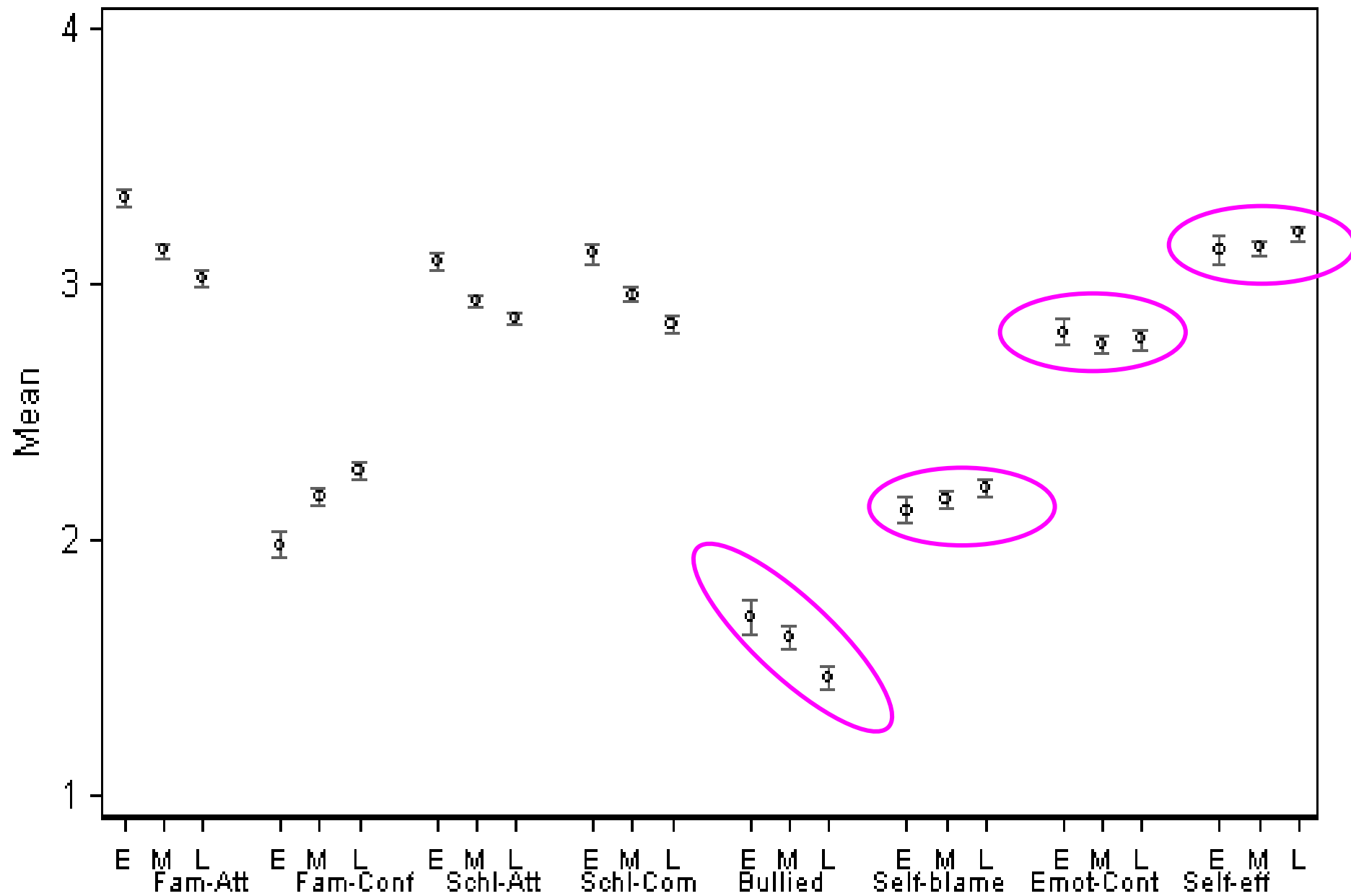


So is  
depression all  
that changes?

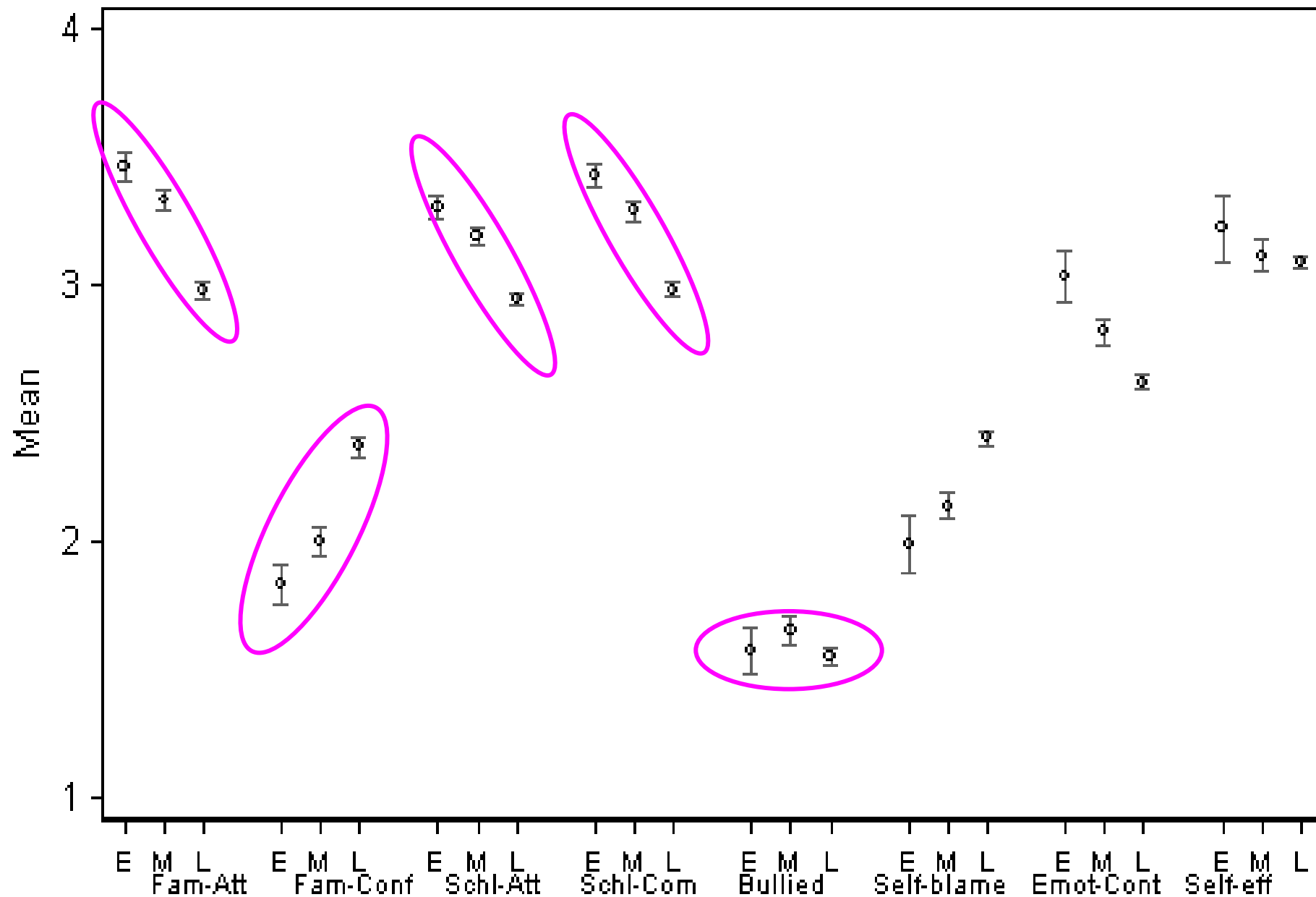
# Males



# Males

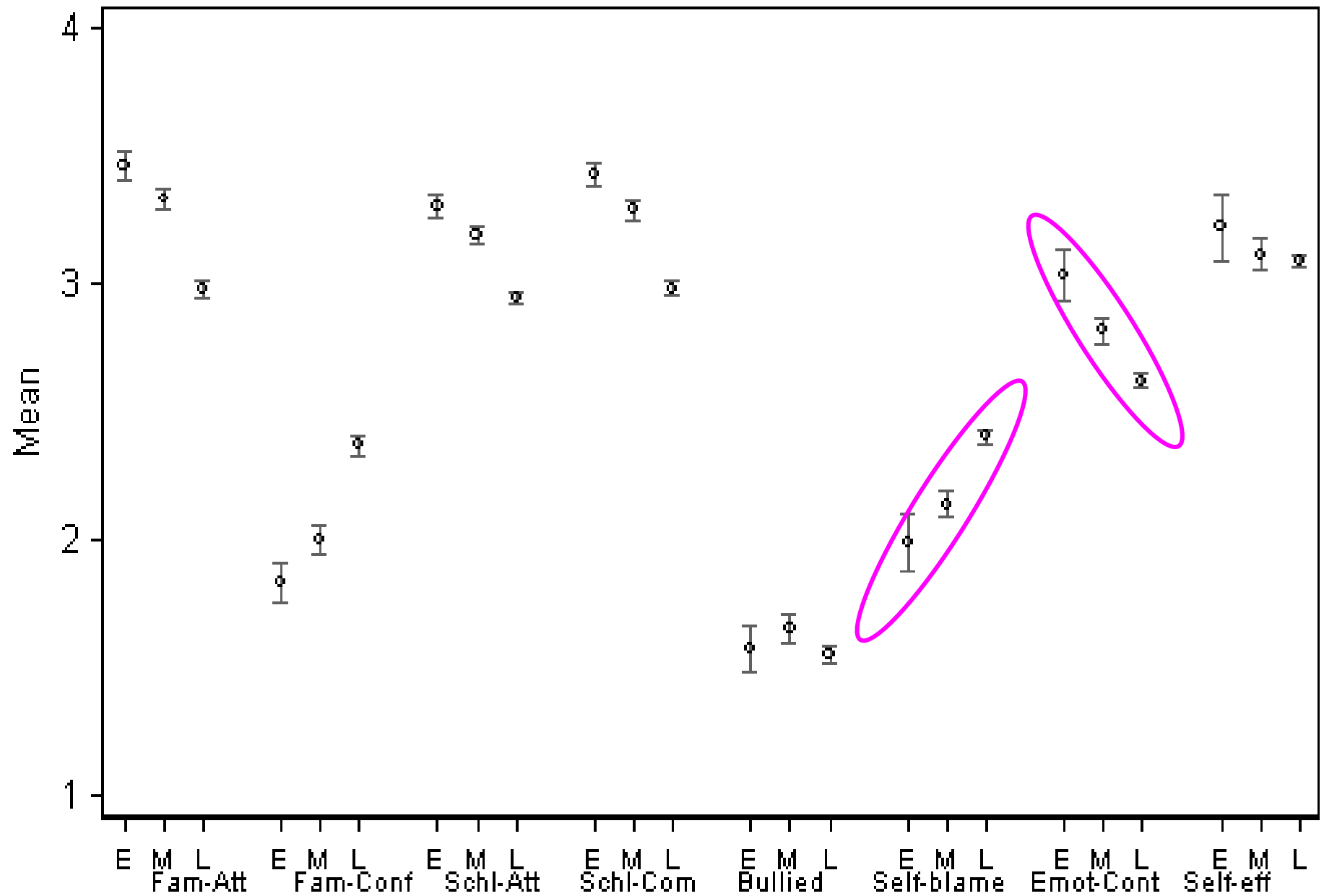


# Females





# Females



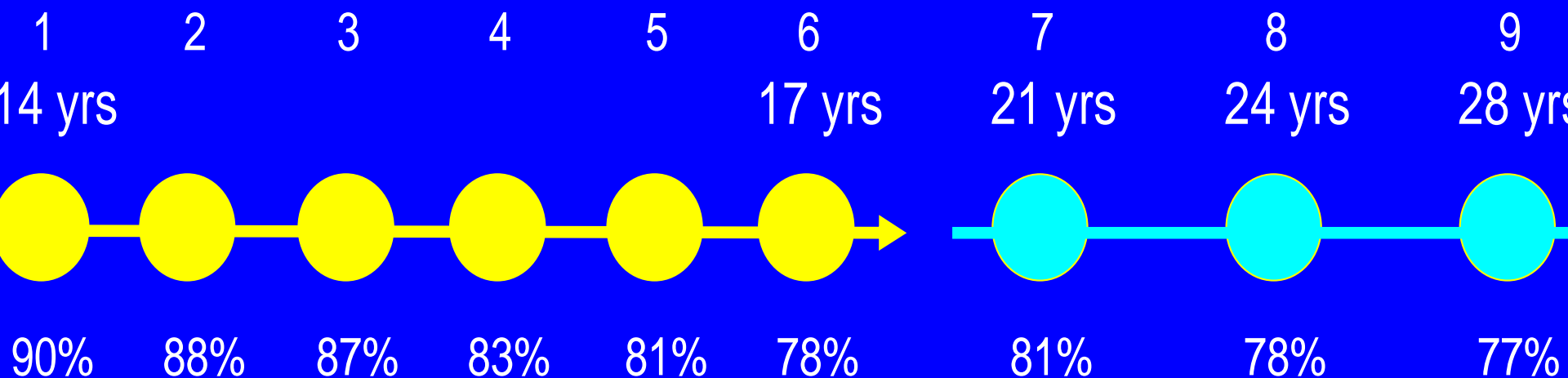
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# Victorian Adolescent Health Cohort Study







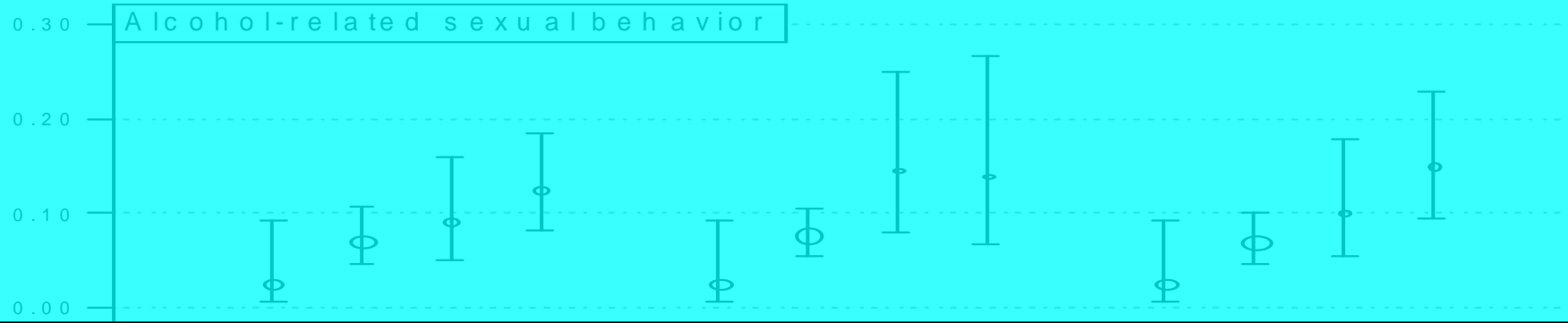
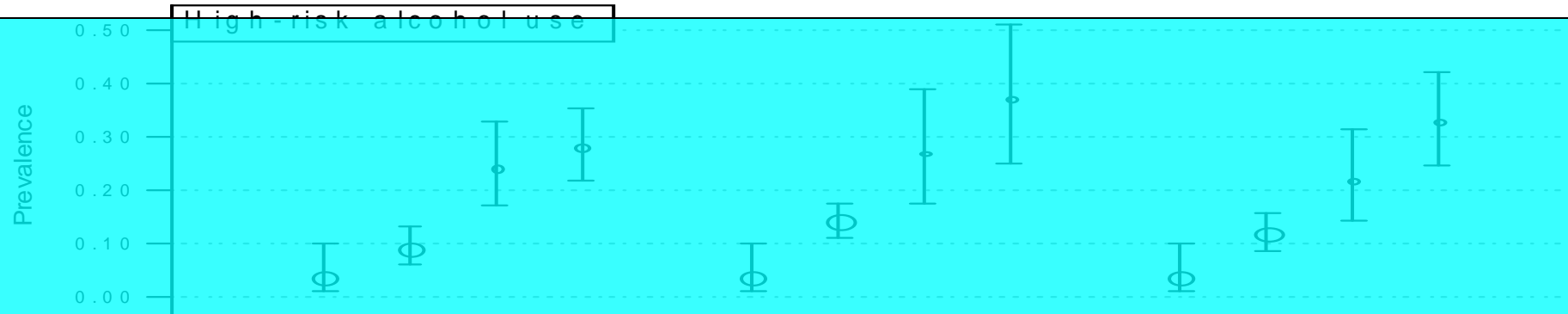
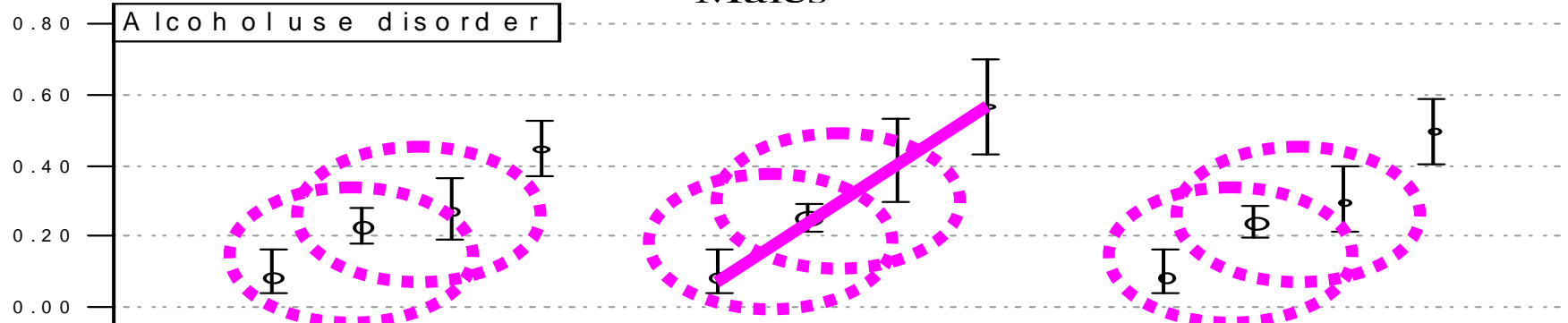
*Does 'sensible' teen drinking protect  
against later harmful drinking?*

*Is there a safe level of teen drinking?*

# Teen drinking groups

- Started after 18 years
- Teen drinker - never risky
- Teen drinker - risky at 1 wave
- Teen drinker – risky at 2+ waves

# Males



Non drinker 0 1 2+ Waves  
2001 Short Term NHMRC Guidelines

Non drinker 0 1 2+ Waves  
2001 Long Term NHMRC Guidelines

Non drinker 0 1 2+ Waves  
2007 NHMRC Guidelines



# Alcohol for teenagers 'never safe'

## Paper casts doubt on drink guidelines

By **NICK MILLER**  
HEALTH EDITOR

TEENAGERS who drink only small amounts of alcohol have a significantly higher risk of abusing alcohol or engaging in risky sexual behaviour as young adults, research has found.

The research casts doubt on new national guidelines that suggest there is a low-risk level of drinking for under-18s.

It provides evidence for a move away from the harm-minimisation approach and raises questions about the apt legal minimum drinking age, experts say.

A team from Melbourne's Murdoch Children's Research Institute says its study, which

### DRINKING DANGERS OFFICIAL GUIDELINES

- For children and young people under 18 years of age, not drinking alcohol is the safest option.
- Children under 15 years of age are at the greatest risk of harm from drinking.
- For young people aged 15-17 years, the safest option is to delay the start of drinking for as long as possible.
- If drinking does occur it should be at a low risk level and in a safe environment.

level that may have been safe," Dr Moore said.

The research, published in the *Australian and New Zealand Journal of Public Health*, found that by young adulthood, 27 per cent of men and 12 per cent of

### ALCOHOL ABUSE

ALCOHOL ABUSE is defined as repeated use

- Resulting in failure to fulfil major obligations.
- Where it is physically hazardous.
- Resulting in legal problems.
- Despite problems caused or worsened by the use.

Alcohol-related high-risk sex includes having sex

- And later regretting it.
- Without a contraceptive or condom.

research at the Royal Children's Hospital George Patton said he had expected that those with no evidence of excessive drinking patterns as teens would do well as adults.

SOURCE: AUSTRALIAN AND NEW ZEALAND JOURNAL OF PUBLIC HEALTH

# NOW & THEN

Now The proportion of people in their

# twenties

who have a partner and children

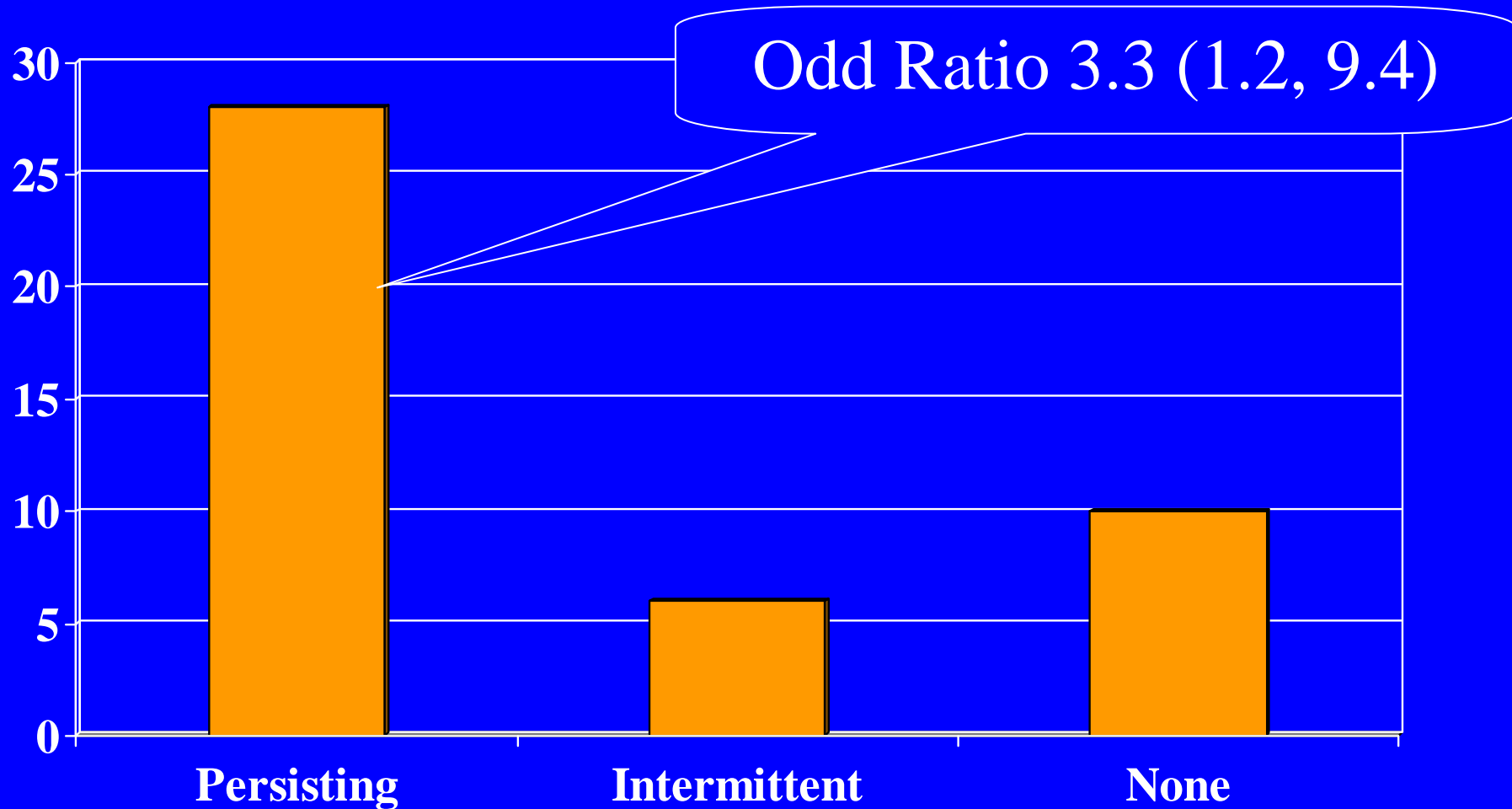
is  
**16** per cent



Then In 1976, it was

**40** per cent

# Predicting Post-natal Depression from Teen Psychiatric Morbidity



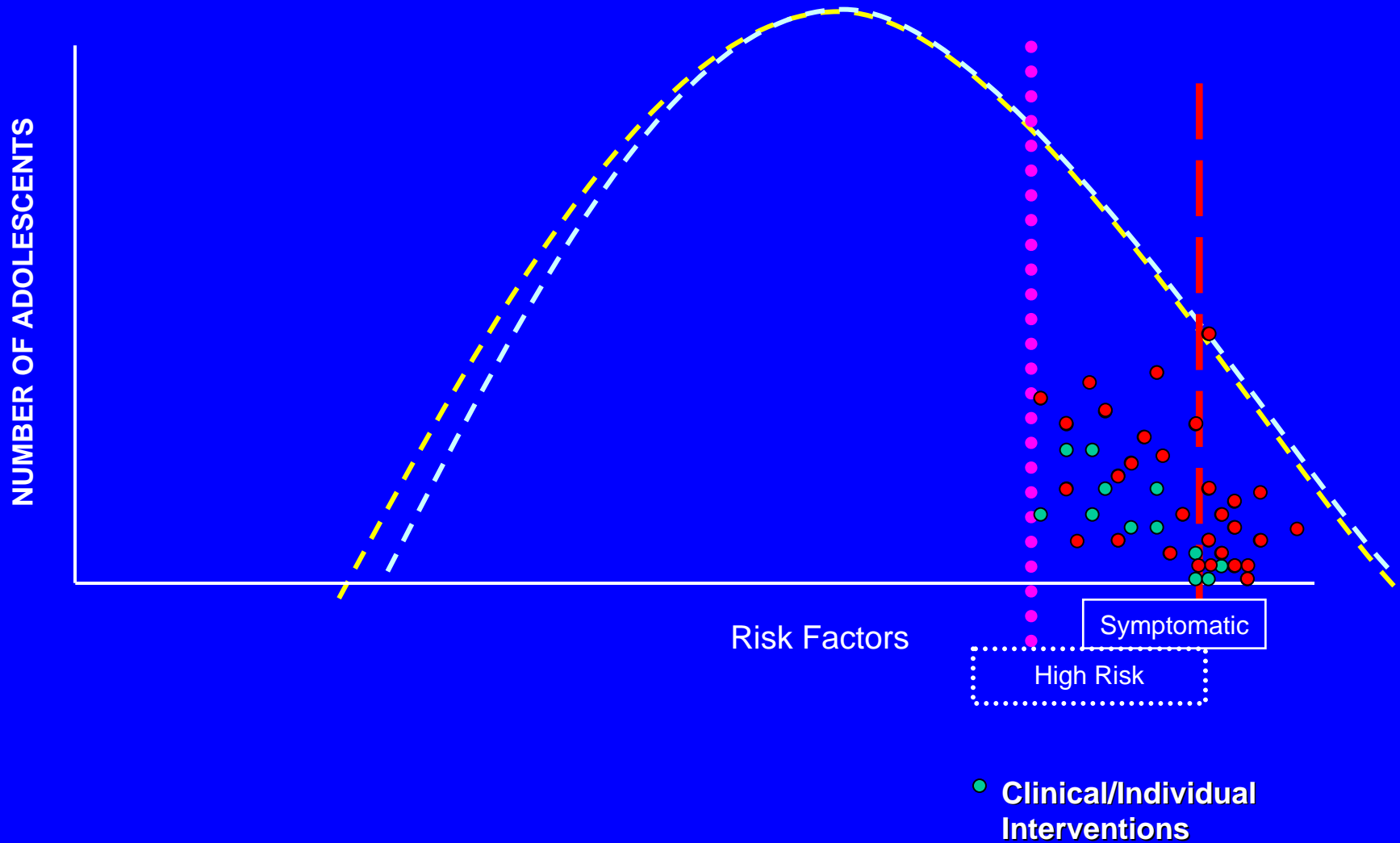
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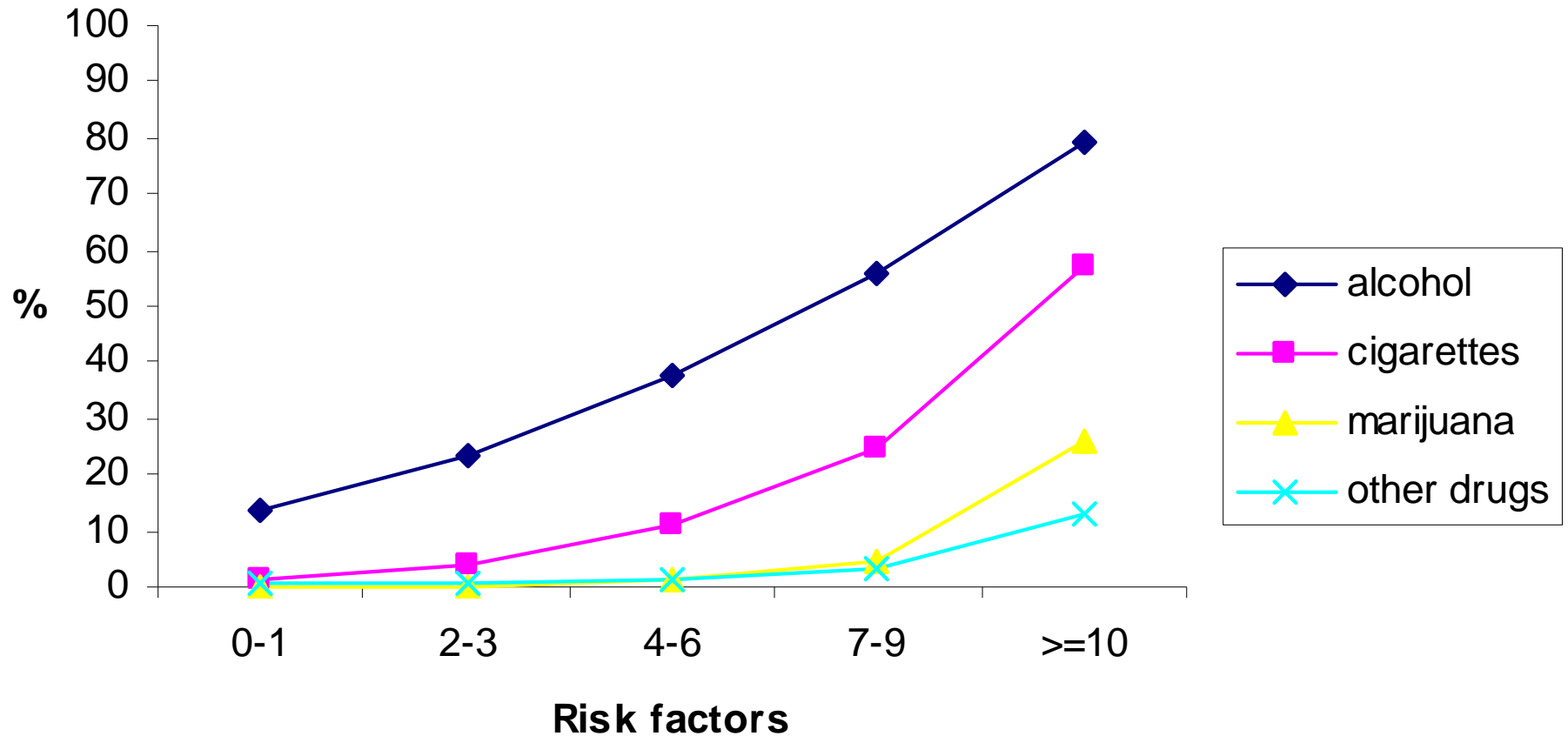
# Population approaches



	Modifiable Risk factors	Protective factors
Community	Perceived drug availability Favourable drug use norms Community transitions & mobility Community disorganisation	Encouragement & reward for involvement Opportunity for community involvement
School	Academic failure Low school commitment	Opportunities and rewards for school involvement
Family	Family conflict Poor discipline History of antisocial behaviour Poor management Favourable parental views on drugs and antisocial behaviour	Family attachment Opportunities and rewards for family involvement
Peer individual	Attitudes to drug use Friends' drug use Perceived risks associated with drug use Sensation seeking Attitudes to antisocial behaviour Rebelliousness Gang involvement Reported antisocial behaviour	Social skills Belief in the moral order

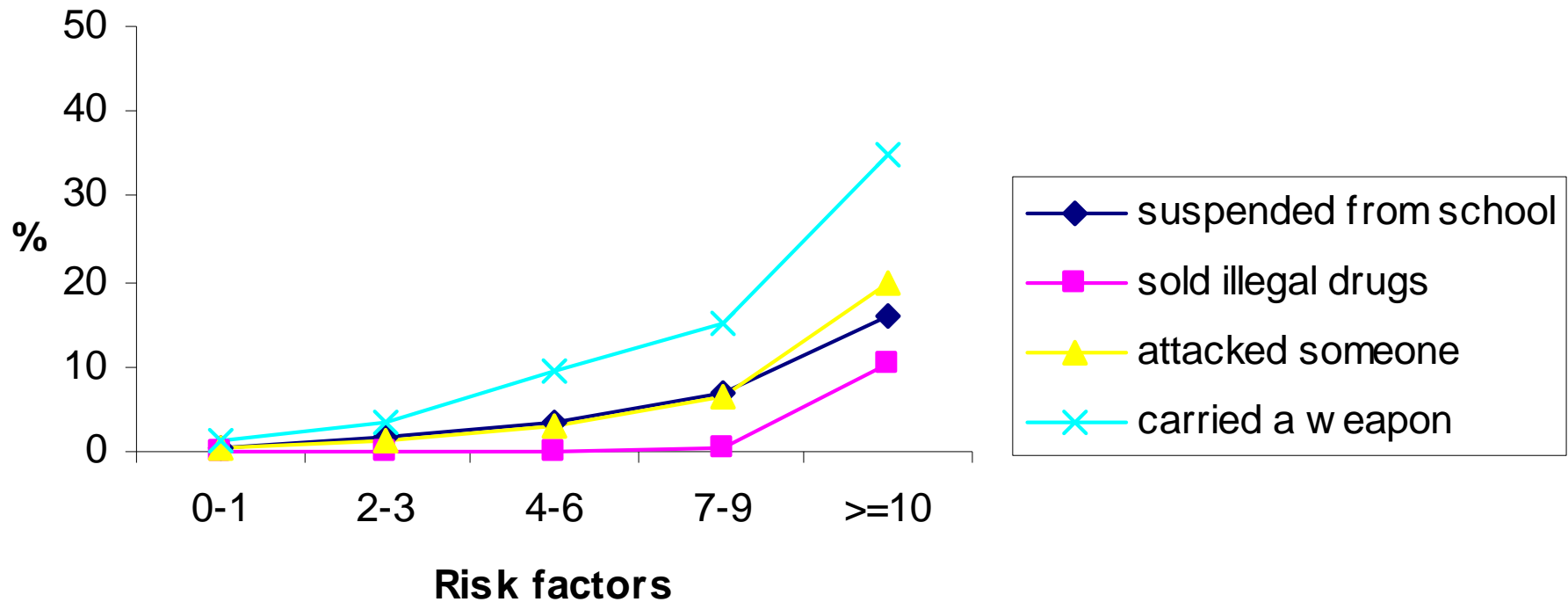
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# Risk factors & substance use

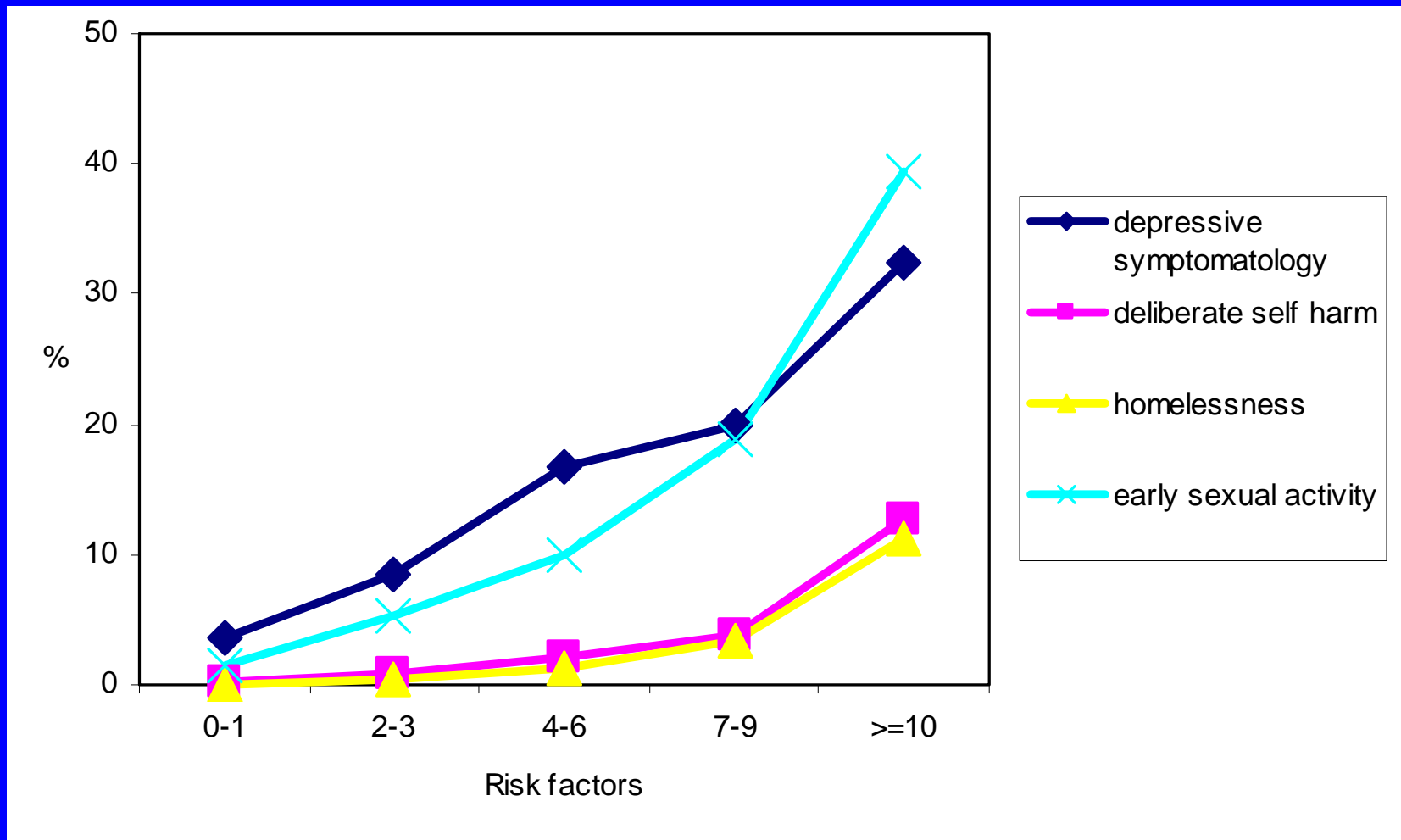




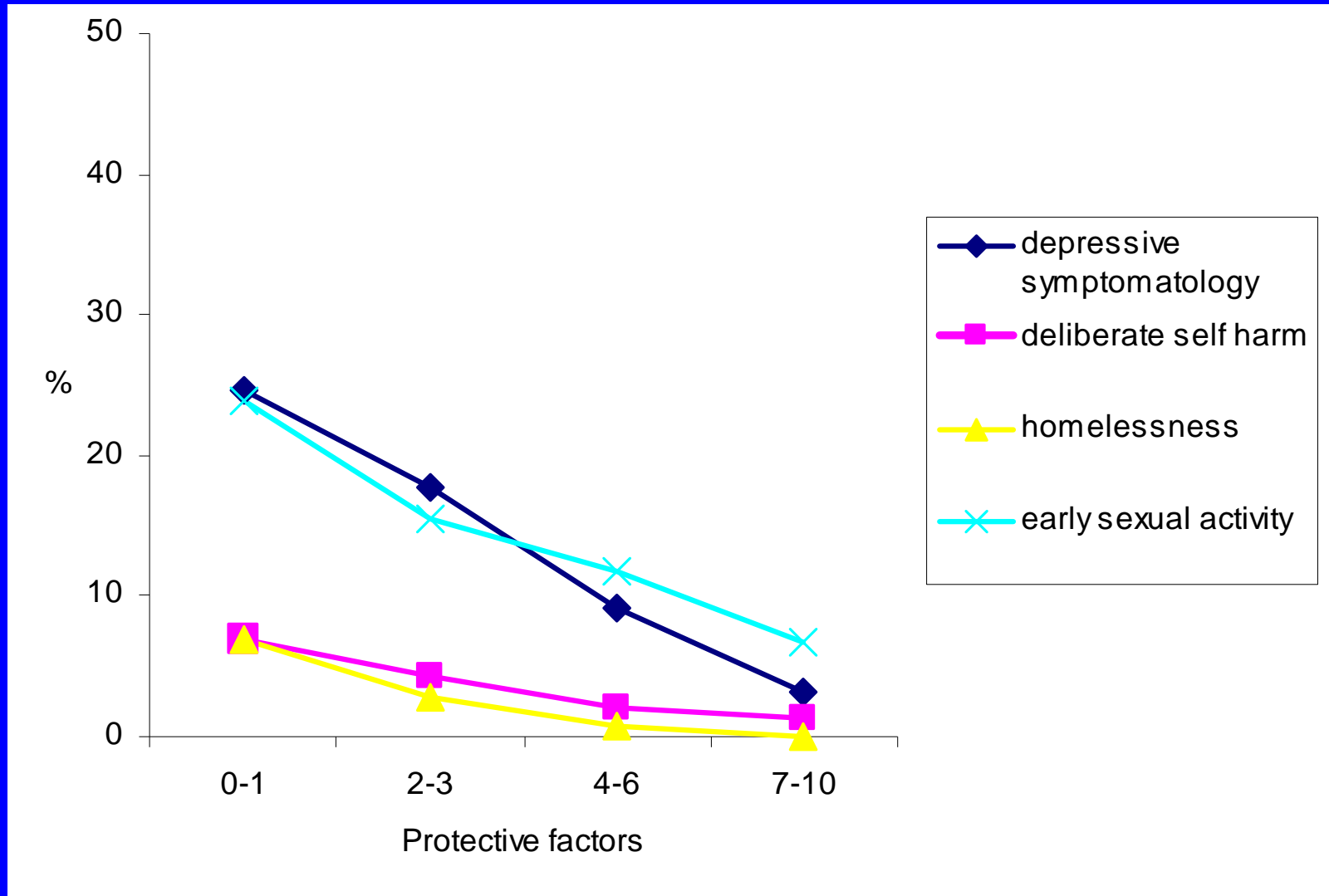
# Risk factors & anti-social behaviour

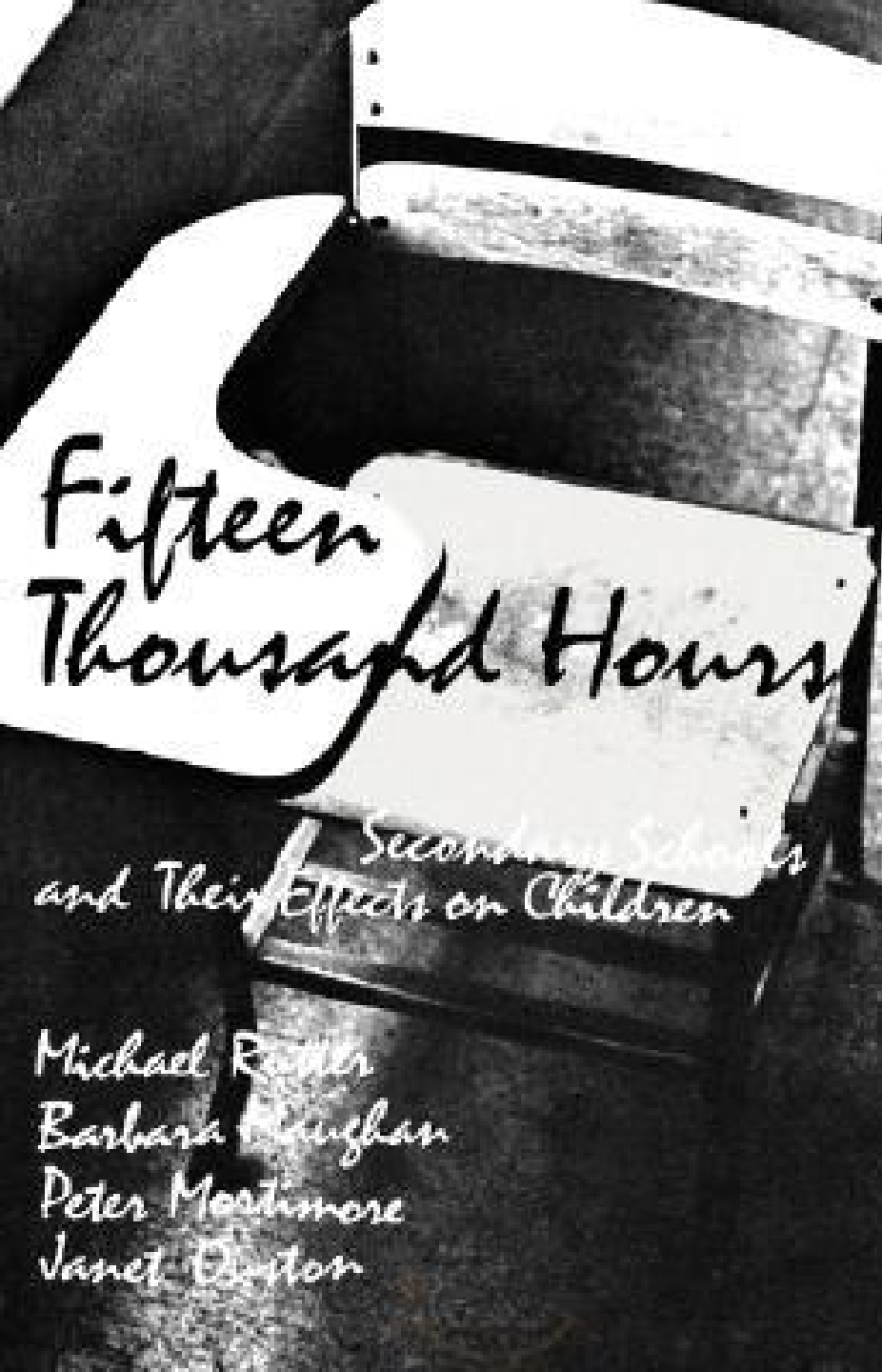


# Risk factors & psychosocial problems

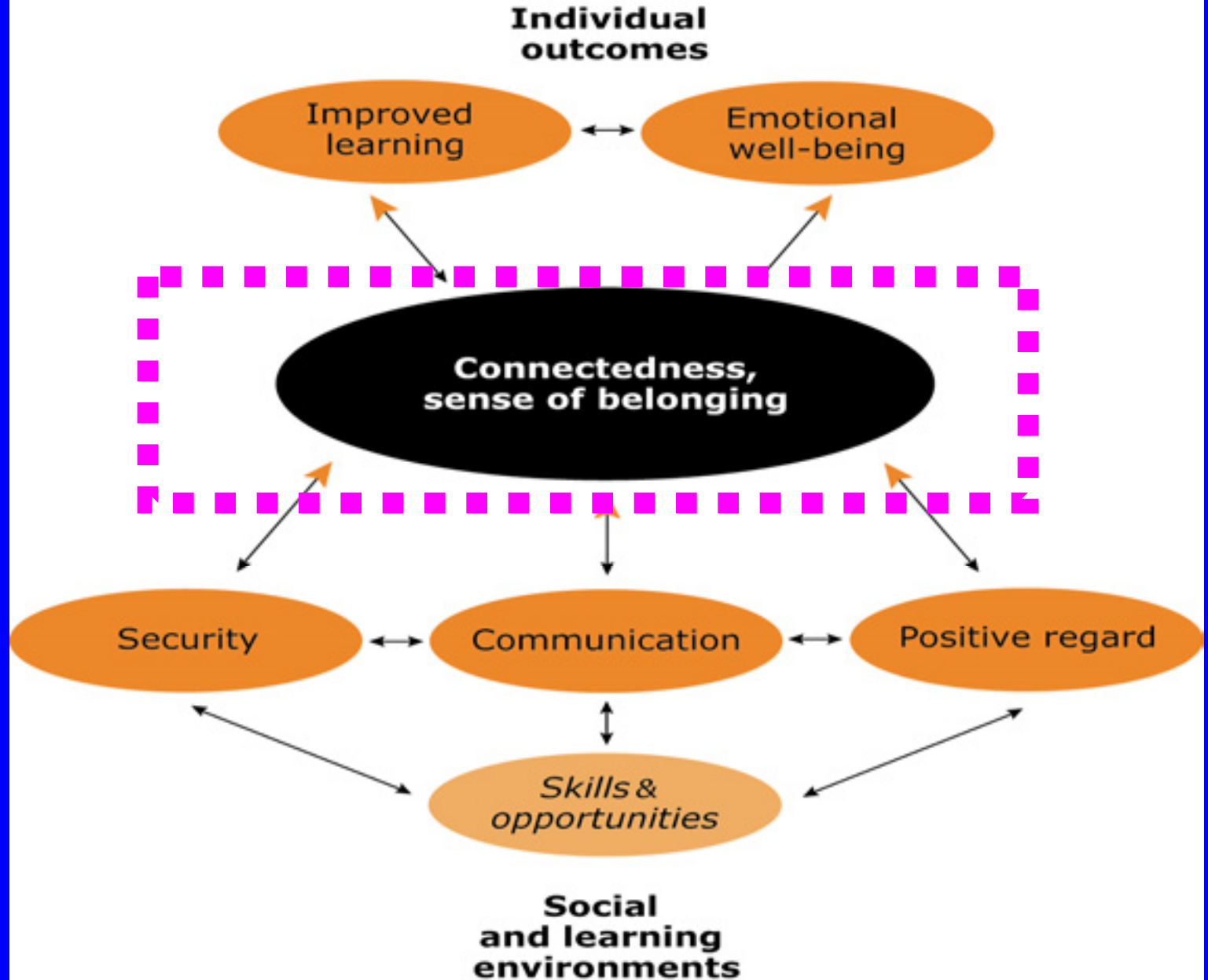


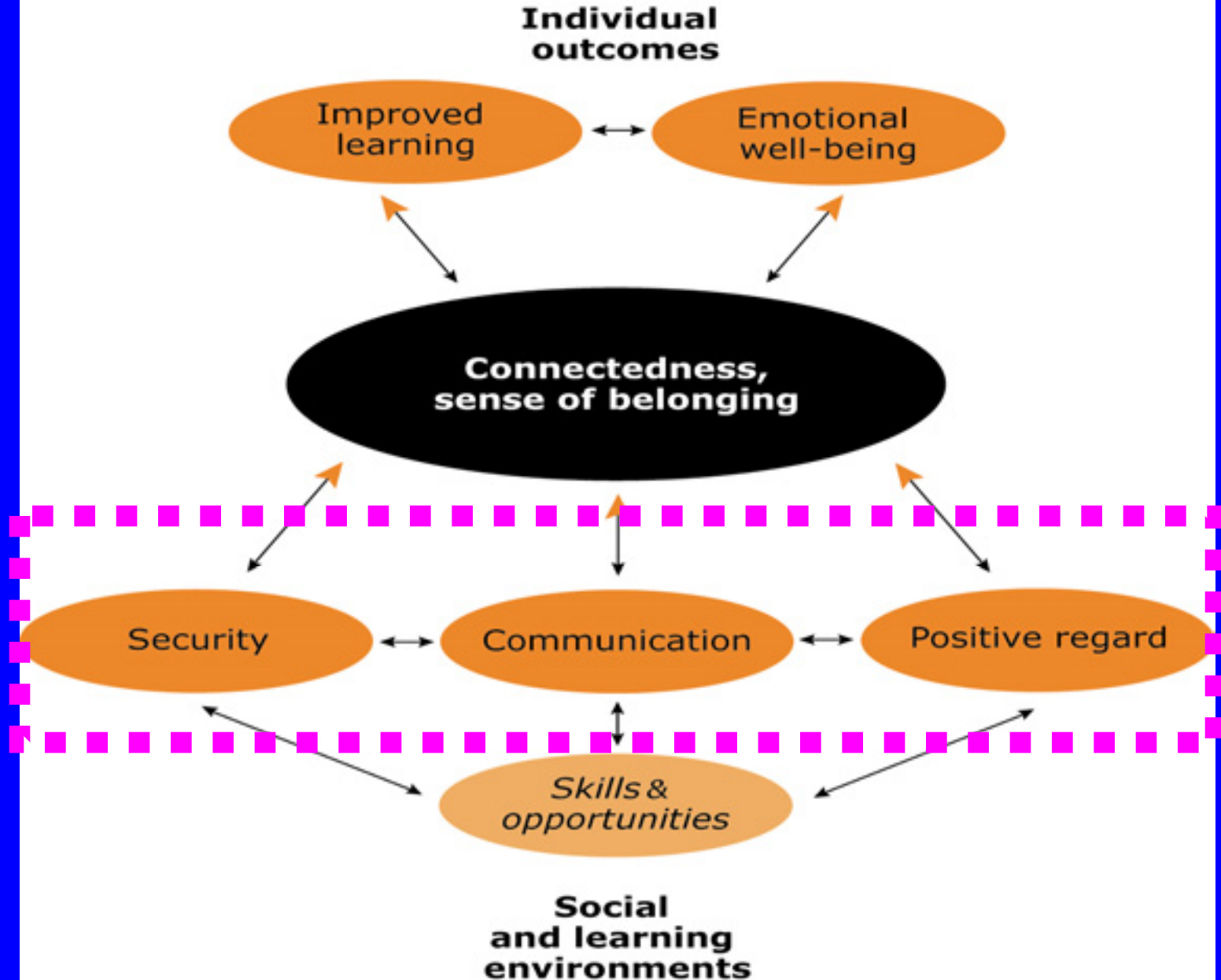
# Protective factors & psychosocial problems



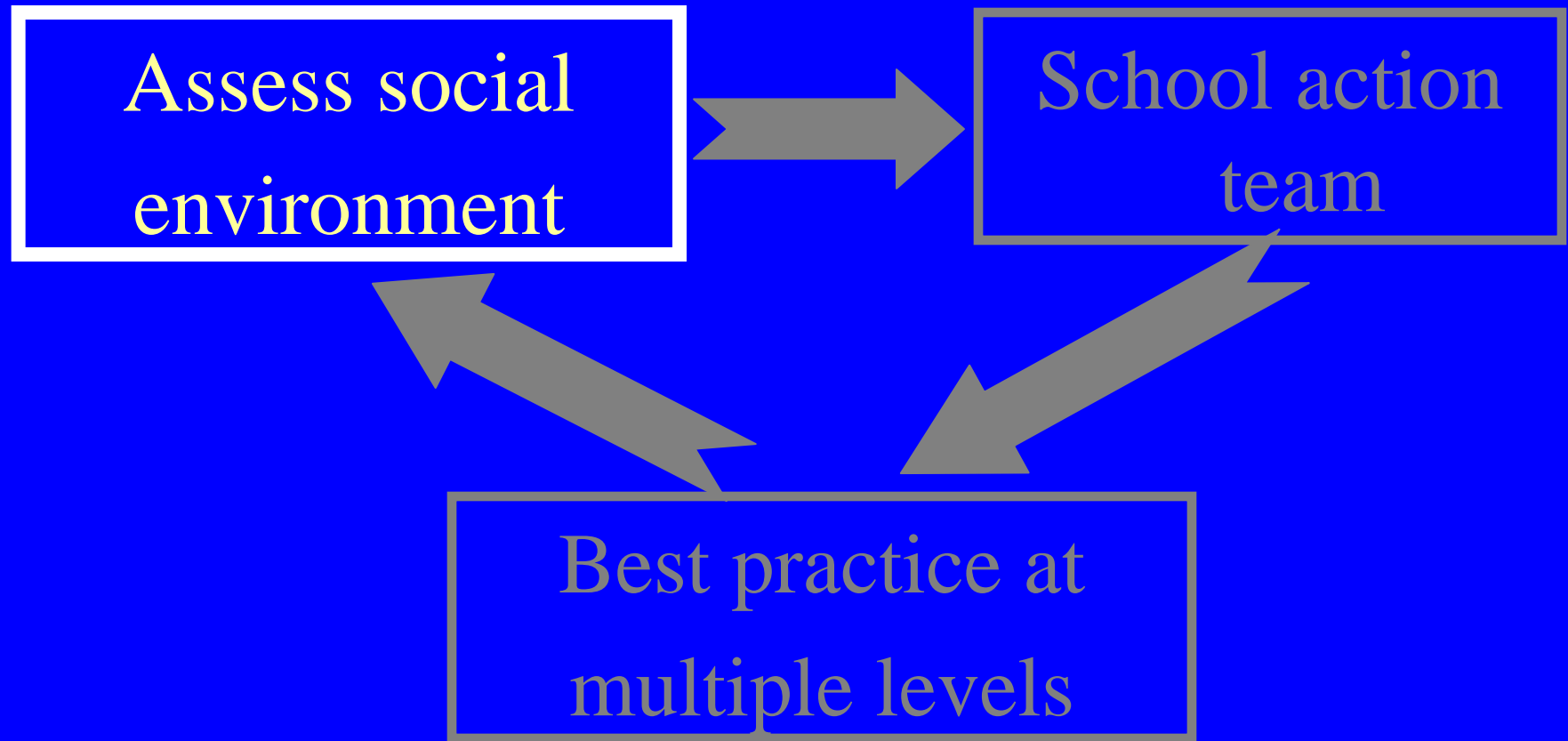


*“For a dozen  
formative  
years children  
spend almost  
half their  
waking hours  
in schools”*

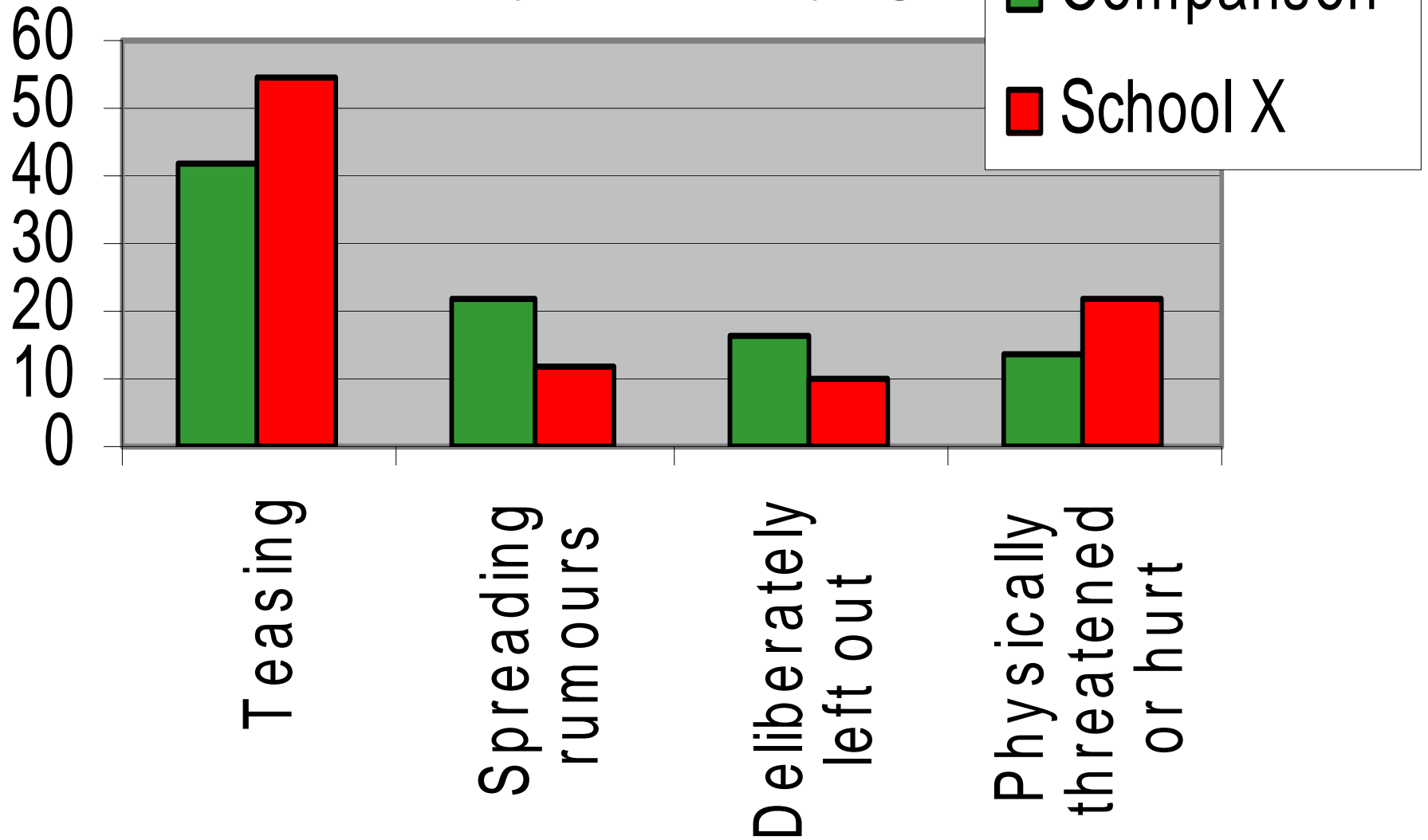




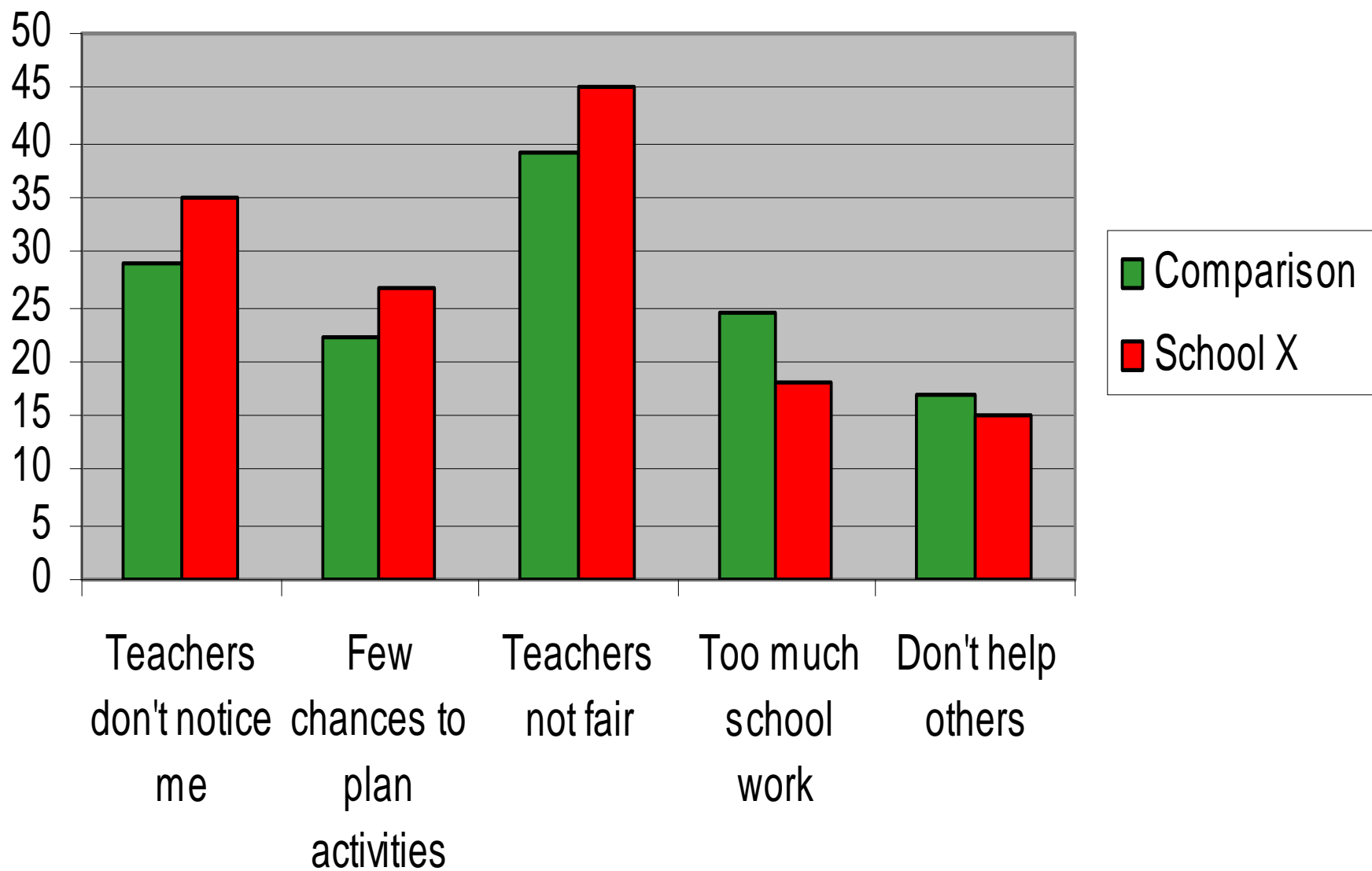
# Gatehouse: a semi-structured process



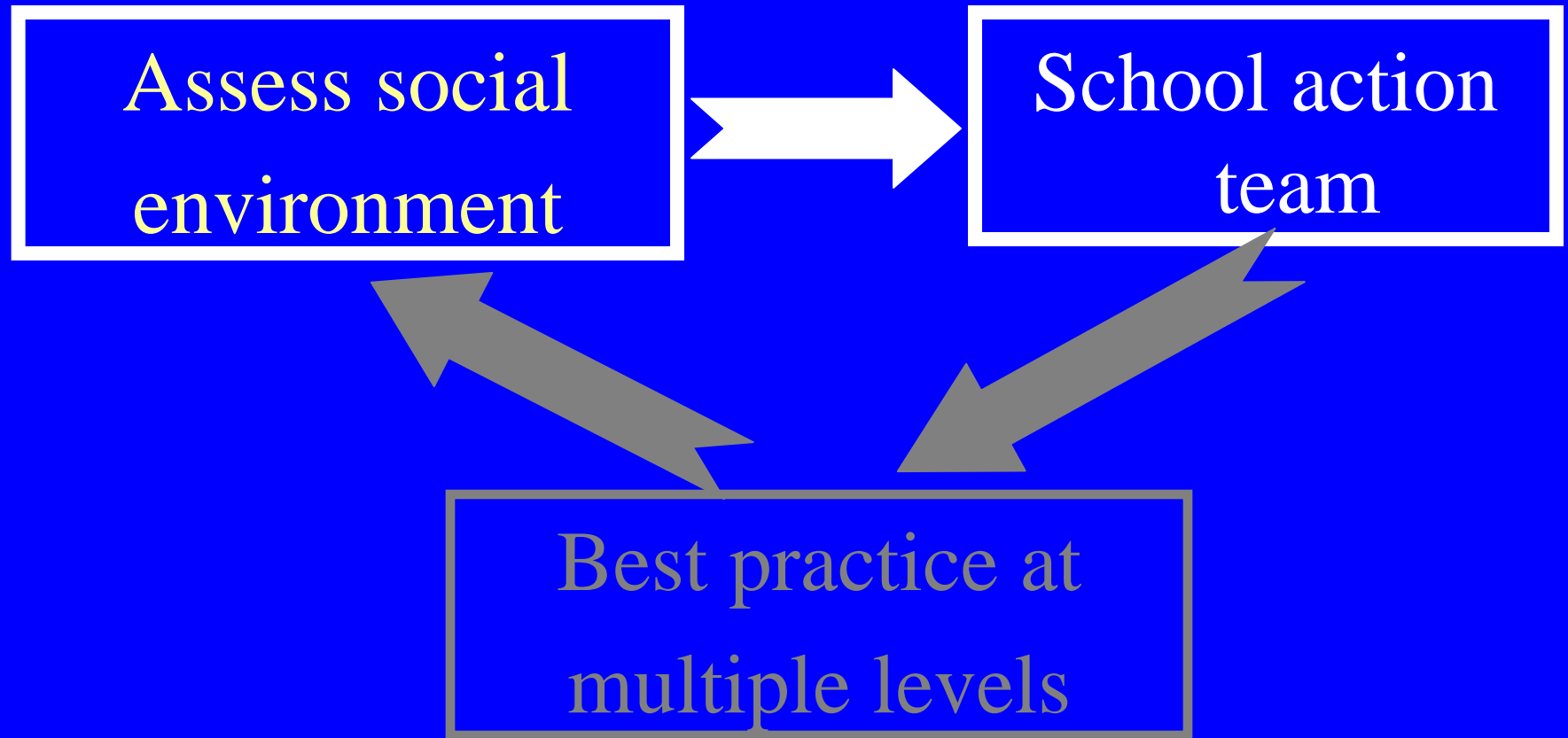
## Types of bullying



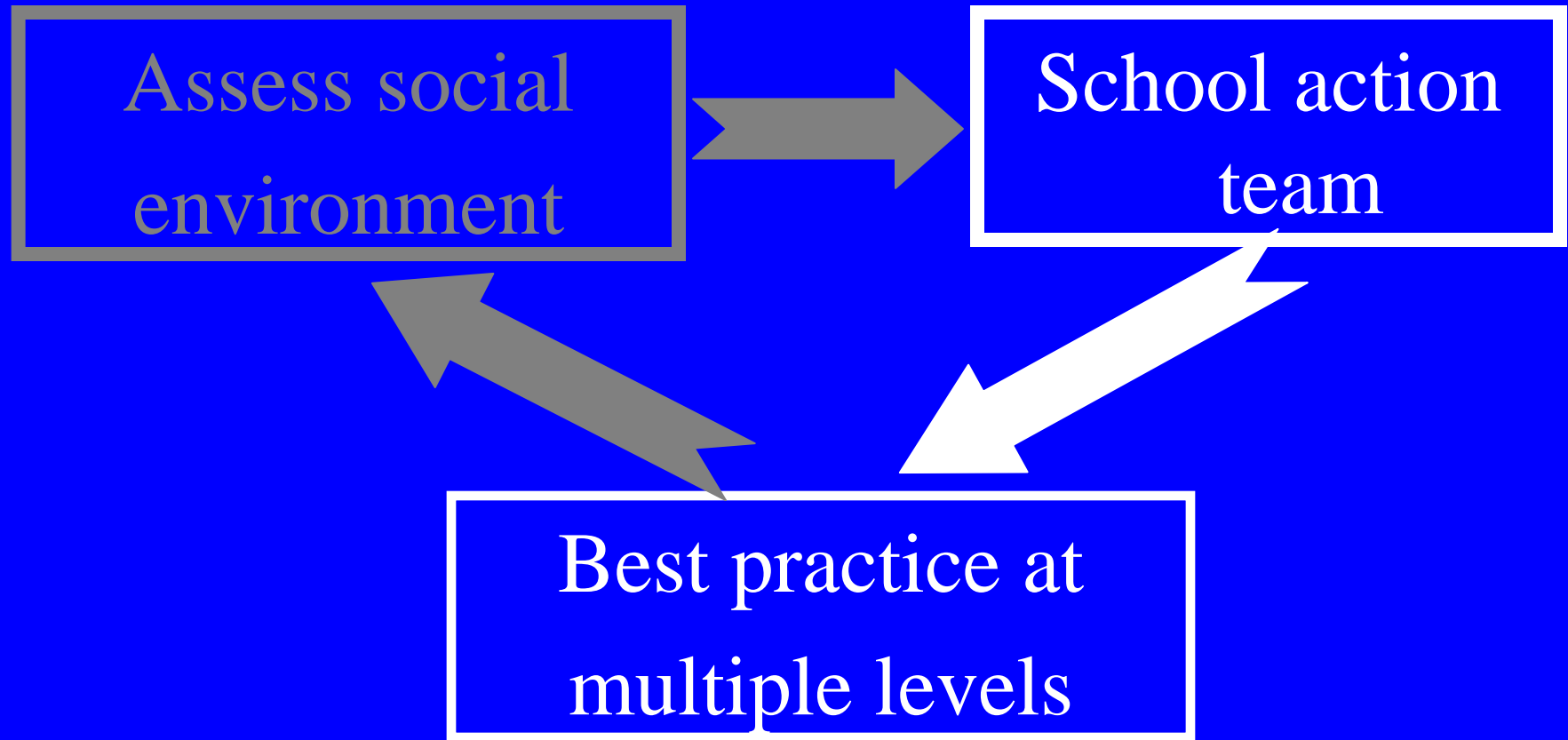




# Gatehouse: a semi-structured process

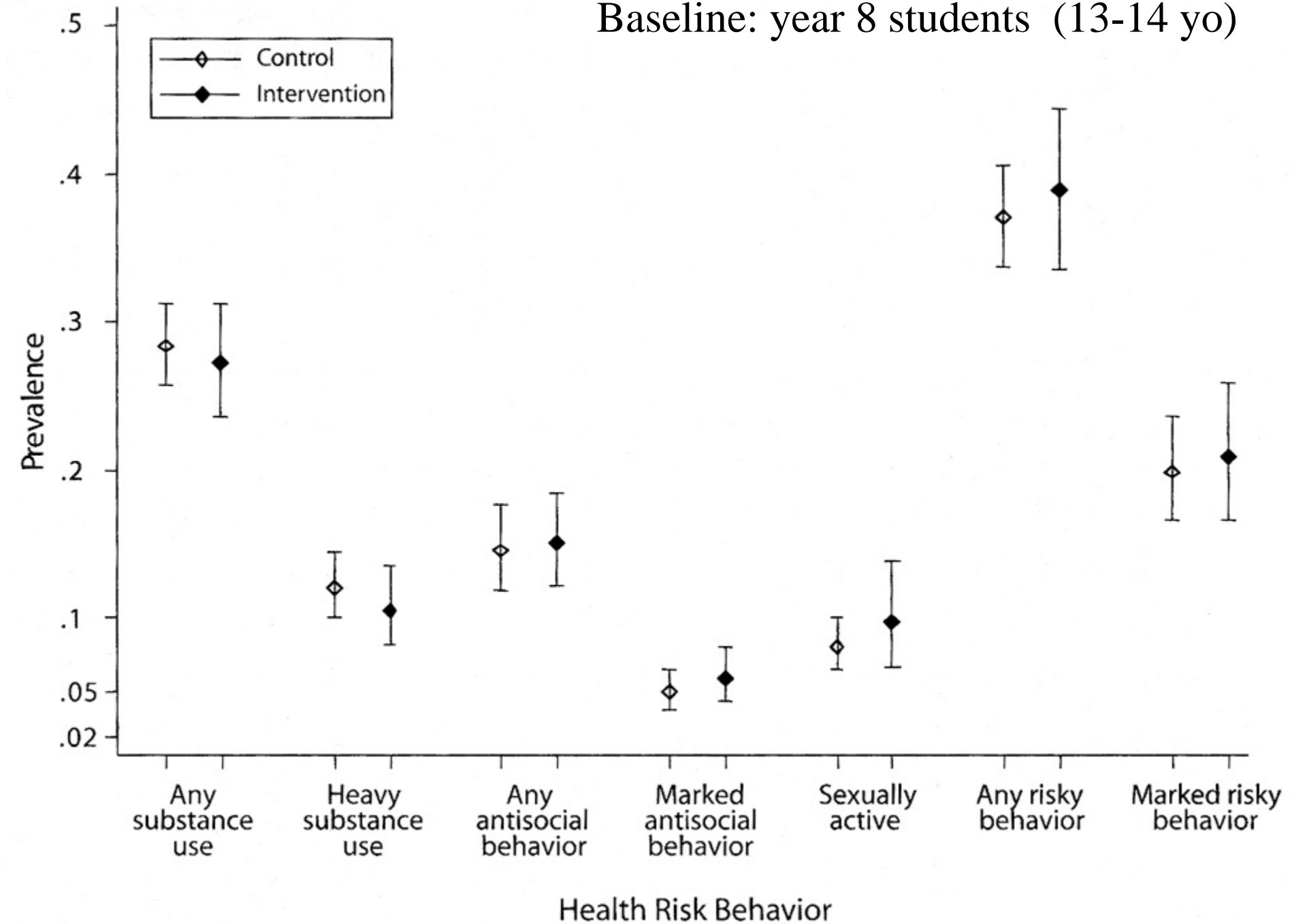


# Gatehouse: a semi-structured process



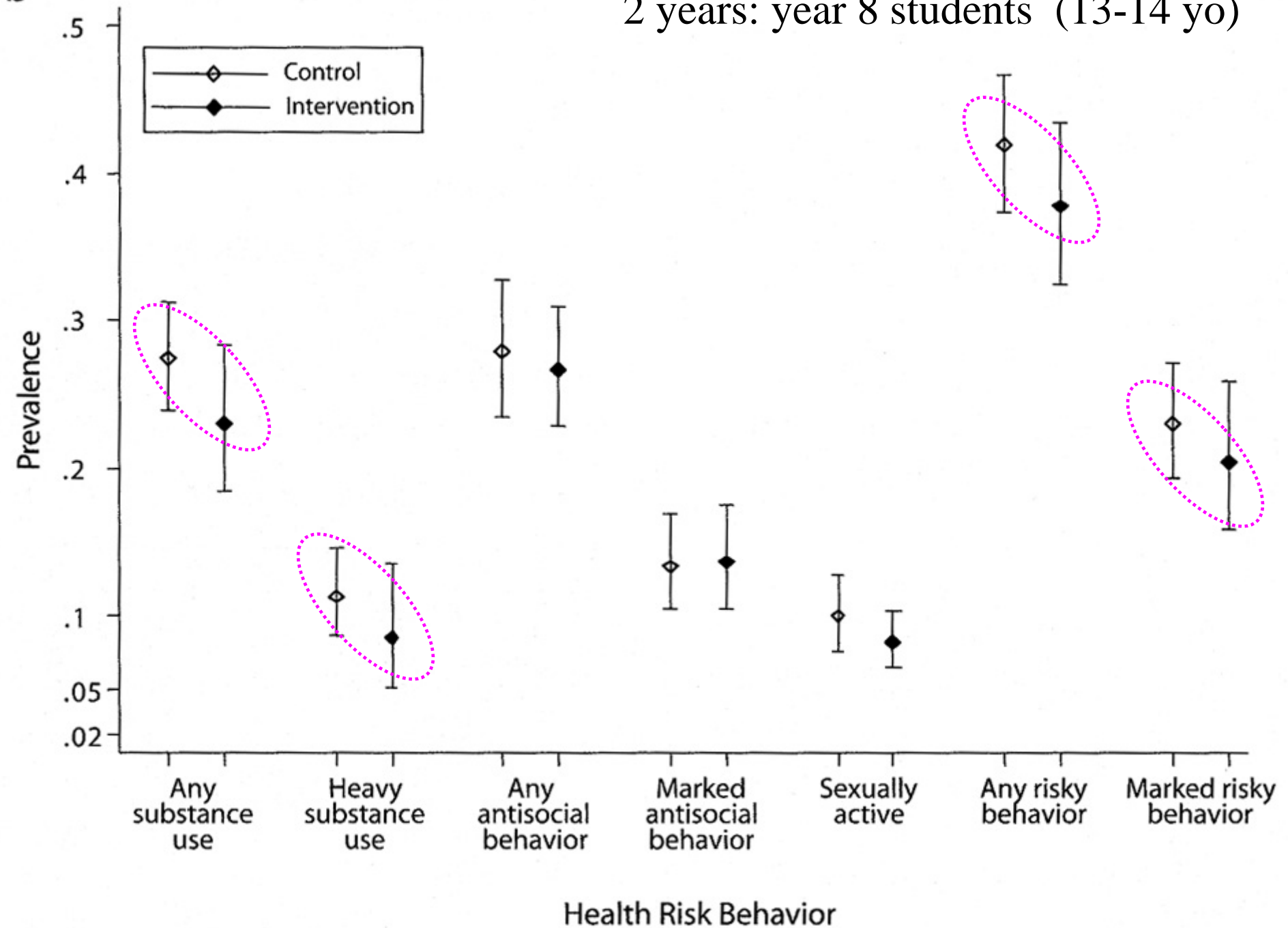
a

Baseline: year 8 students (13-14 yo)



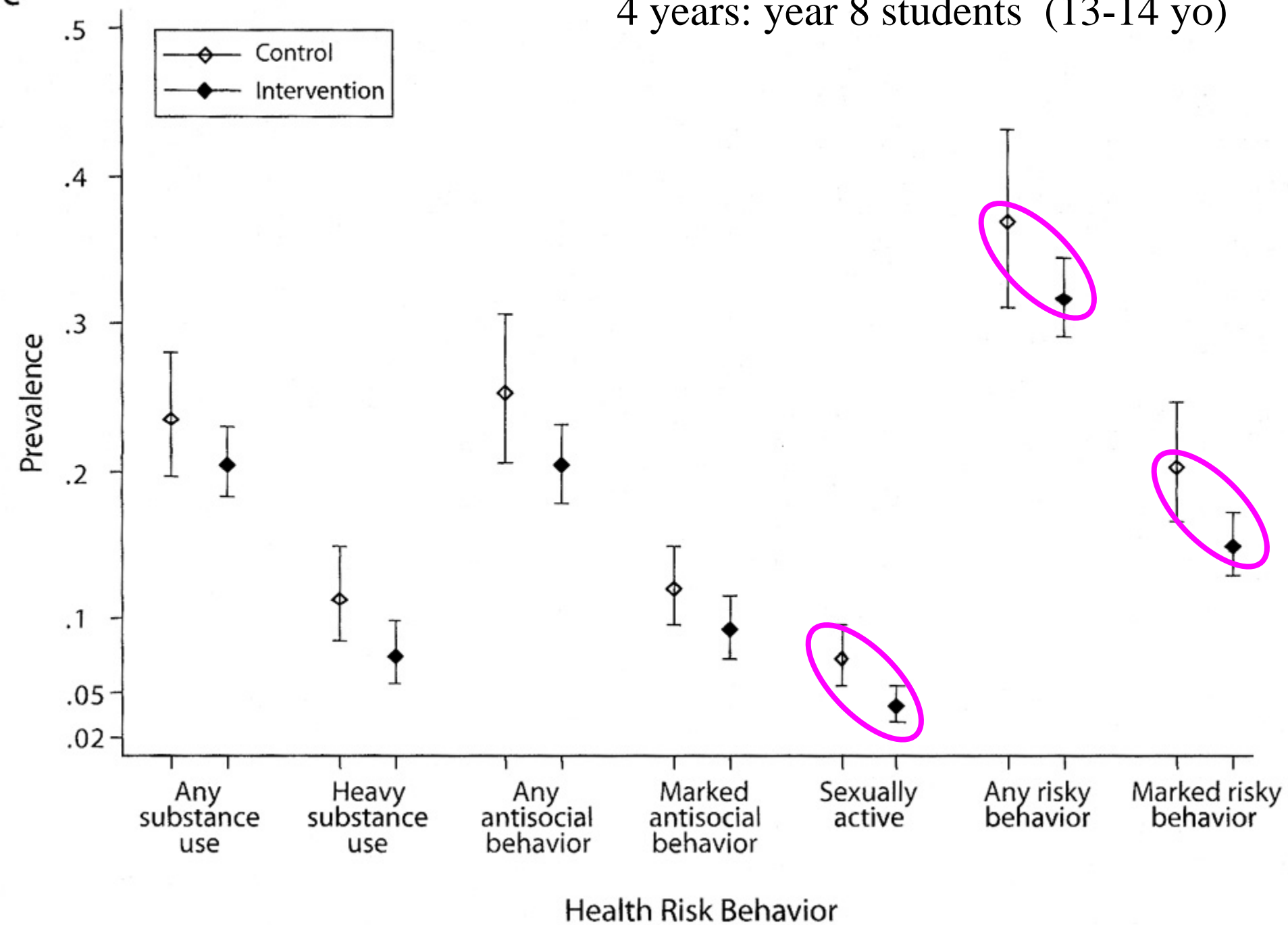
b

2 years: year 8 students (13-14 yo)



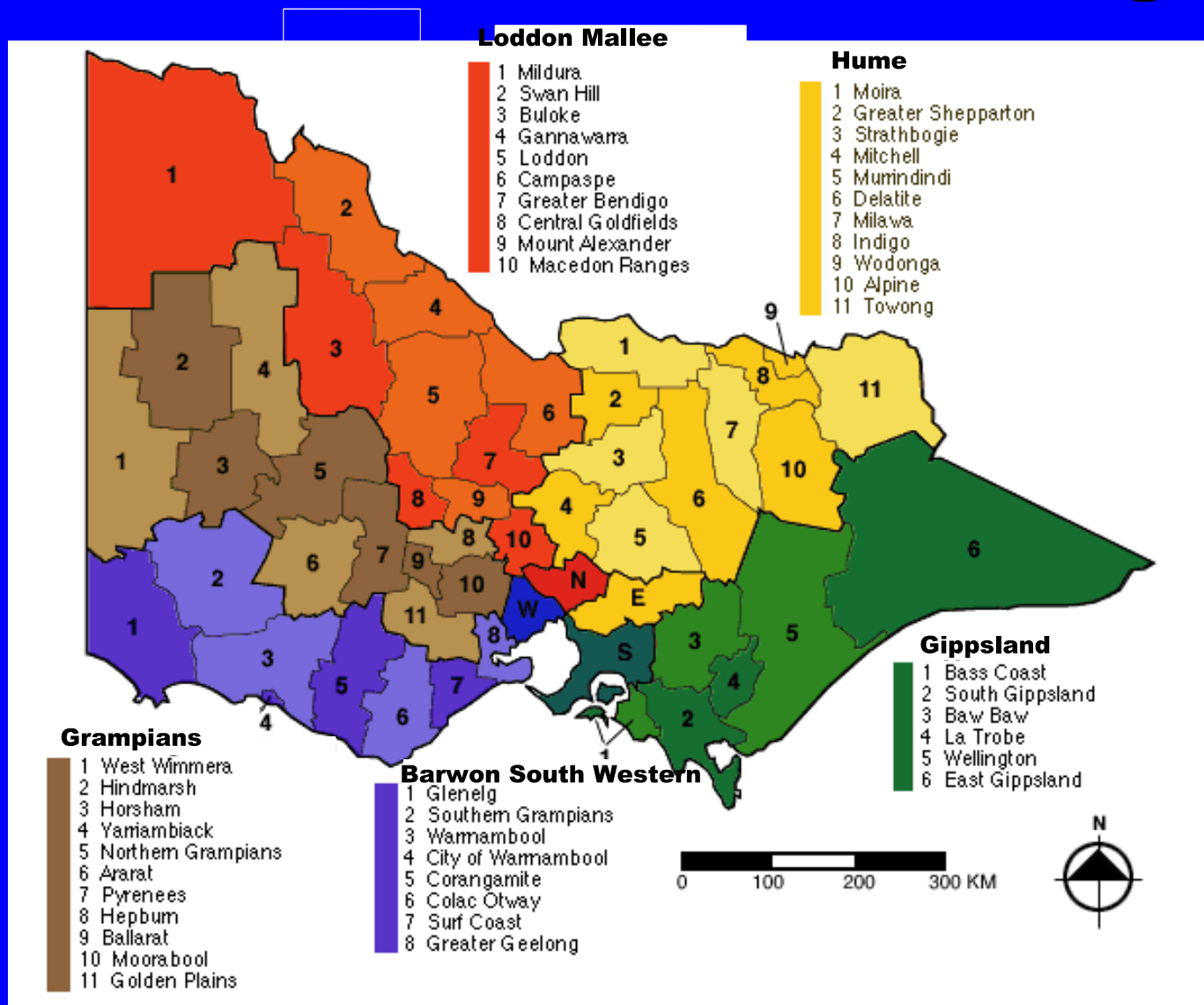
C

4 years: year 8 students (13-14 yo)

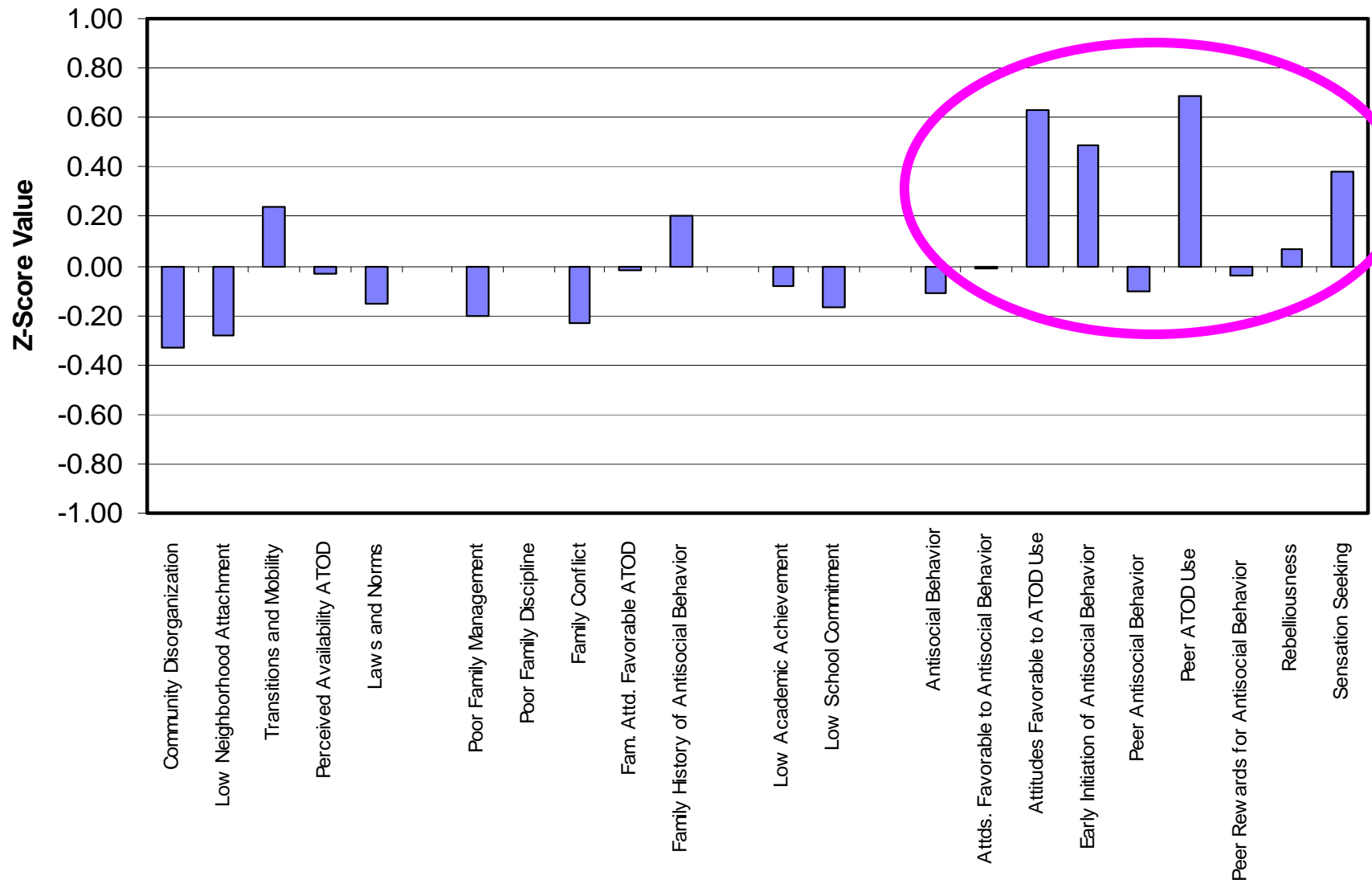


# Department of Human Services Regions

Map 1



# Neighbourhood Risk Factor Profile,

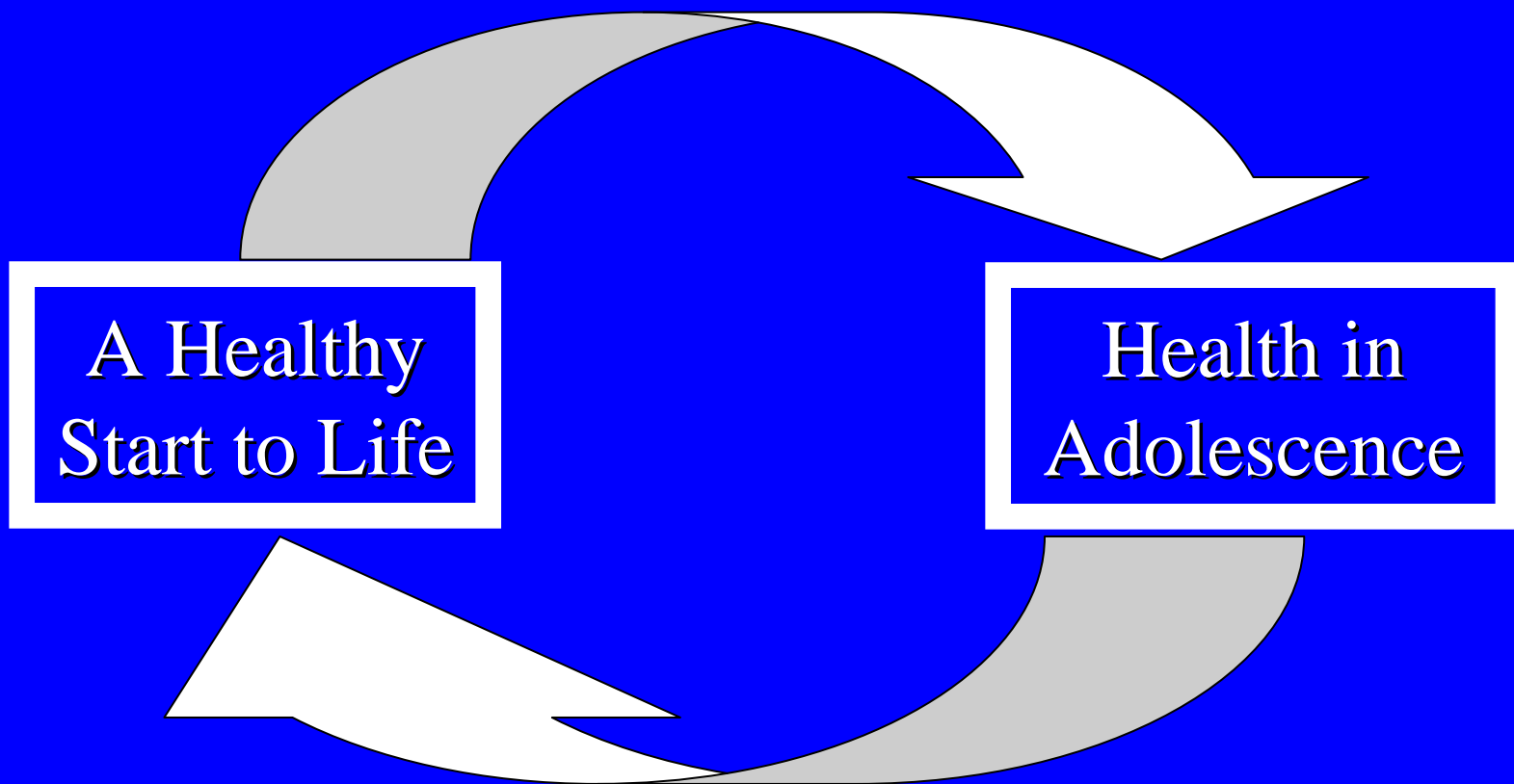




# 2007 Lancet Series in Adolescent Health



- Pubertal transitions in health
- Sexual & reproductive health
- Mental health
- Substance use
- Chronic conditions
- Youth friendly primary care services



# Whole of government approach

No systematic national  
adolescent health data

No mechanism for  
coordination across sectors

Balance between prevention  
and health care

Use available resources &  
systems

